

Service Manual

DVD Player


 Supplement

**DVD-A100U/CA, DVD-A350EB/EC, DVD-A350A,
DVD-A330EN/A130EN, DVD-A330MU/A130MU,
DVD-A105U, DVD-A150EB/EC, DVD-A310U/CA/A110U/CA,
DVD-L10D, DVD-L10EB/EC, DVD-L10EN/P10EN,
DVD-L10MU/P10MU, DVD-P10D, DVD-A350EU,
DVD-A450EN, DVD-A110PM**

Interchangeability Code See the I/C column on the following Part Number list.

A	Parts	Set Production	B	Parts	Set Production	C	Parts	Set Production	D	Parts	Set Production	E	Addition
	Original	→ Early		Original	→ Early		Original	→ Early		Original	→ Early	F	Deletion
	New	→ Late		New	→ Late		New	→ Late		New	→ Late	G	Other

Subject 1: Addition of missing Parts Number

Parts Number

Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
27 (1)	—	VYP6304	FRONT PANEL	G	DVD-A100U/CA

Subject 2: Change of MAIN C.B.A.

Parts Number

Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
■	VEP96512B	VEP96512AE	MAIN C.B.A.	C	DVD-A110U/CA

Subject 3: Change of Parts Number

Parts Number

Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
IC28205	T74VHC221AF-I	TVHC221AFTEL	IC	A	DVD-L10EB/EC

△ WARNING

This service information is designed for experienced repair technicians only and is not designed for use by the general public. It does not contain warnings or cautions to advise non-technical individuals of potential dangers in attempting to service a product. Products powered by electricity should be serviced or repaired only by experienced professional technicians. Any attempt to service or repair the product or products dealt with in this service information by anyone else could result in serious injury or death.

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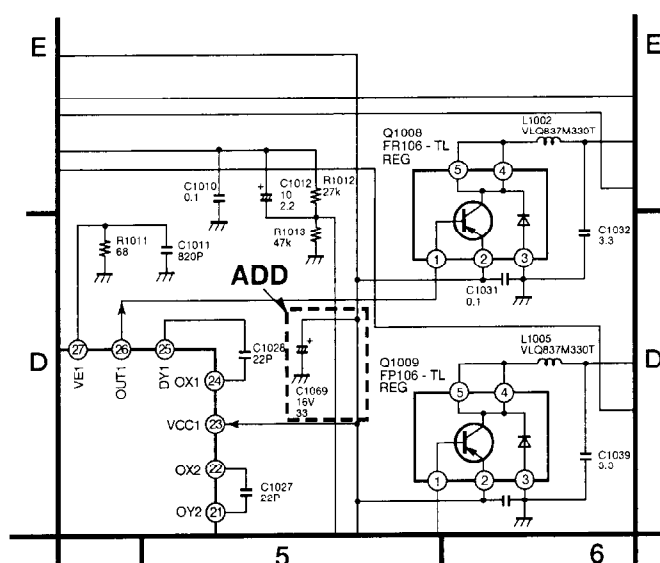
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Subject 4: Improvement of Video Beat

Parts Number

Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
C21069	—	HCE1CSA330CA	E.CAPACITOR CH 16V 33U	E	DVD-L10D, DVD-L10EB/EC DVD-L10EN/P10EN, DVD-L10MU/P10MU

● POWER SUPPLY SECTION (MAIN C.B.A. <1/11>) SCHEMATIC DIAGRAM



Subject 5: Correction of Optical Digital Audio Cable

Parts Number

Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
110 (3)	VJA1081	—	OPTICAL DIGITAL AUDIO CABLE	F	DVD-P10D

Subject 6: Correction of Parts Number

Parts Number

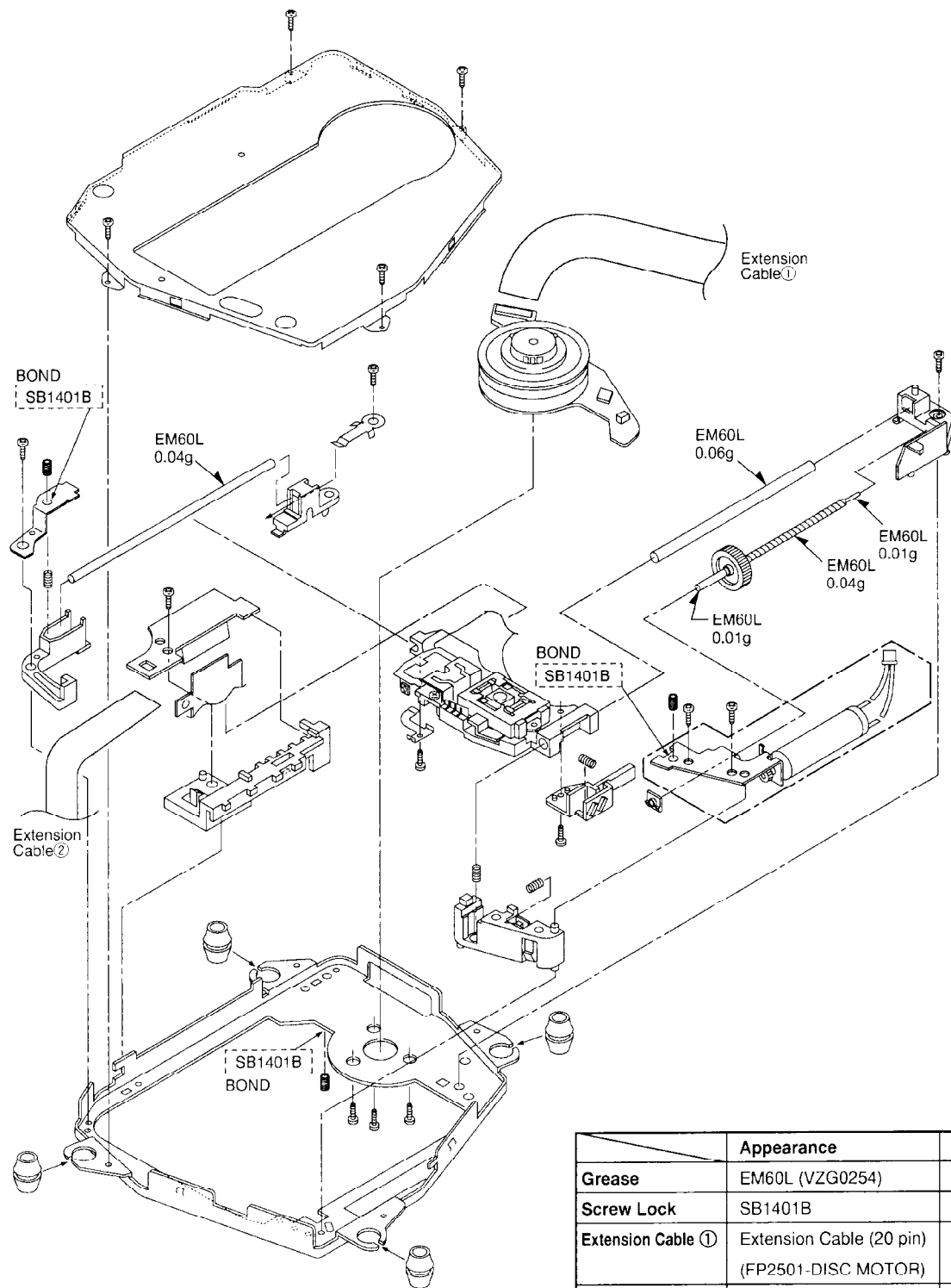
Ref No.	Original Parts No.	New Part No.	Part Name & Descriptions	I/C	Remarks
61 (3)	VXK1363	VXK1402	TRAVERSE UNIT	G	DVD-A450EN
87 (4)	VED0378	VED0378Z	OPTICAL PICK-UP UNIT	G	DVD-A450EN

Subject 7: Correction of Parts Number (D2 Model table SERIES FEP and ADSC and Servo Section (MAIN C.B.A.) SCHEMATIC DIAGRAMS/D-18)

Parts Number

Ref No.	Mistake	Correction	Remarks
TC2021 (up)	TC2021 (up)	TC2022	
TC2021 (down)	TC2021 (down)	TC2012	

Subject 8: Change of Lubrication Information (DVD-L10, P10 SERIES)



	Appearance	Part No
Grease	EM60L (VZG0254)	JGS0092
Screw Lock	SB1401B	RZZ0L01
Extension Cable ①	Extension Cable (20 pin) (FP2501-DISC MOTOR)	JGS0096
Extension Cable ②	Extension Cable (30 pin) (FP5201-INTERFACE C.B.A.)	JGS0097
Test Disc	DVD Test Disc	DVDT-S15 (DVDT-S01)

Service Manual

General Description

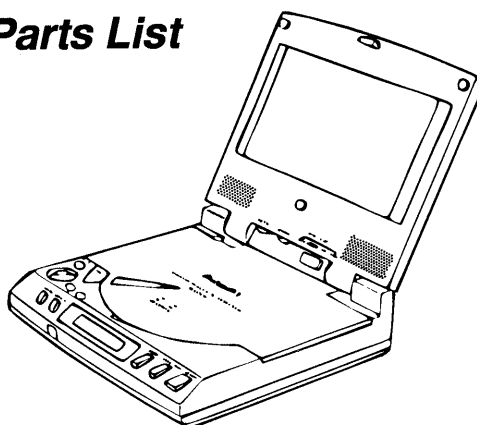
Adjustment Procedures

Schematic Diagrams

Exploded Views / Parts List

Portable DVD/VIDEO CD/CD Player

DVD-L10EB/EC



SPECIFICATIONS

ITEM	SPECIFICATION	ITEM	SPECIFICATION
Power Source	DC 9 V	LCD Screen	5.8" α -Si, TFT wide-screen LCD
Power Consumption	20 W (with battery charger/AC adaptor) 13 W (Main unit only) [2.4W when power is off by the power switch or the remote control (when the battery charger/AC adaptor is connected)]	S-Video Output (Separate YC Signal Output)	Y output level: 1 Vp-p (75 Ω) C output level: 0.300 Vp-p (75 Ω) (PAL) Output connector: S terminal (1 system)
Battery Charger/AC Adaptor	Power source: AC 110 ~ 240 V, 50/60 Hz Power consumption: 31 W DC output: 9 V, 2 A (Charge) 9 V, 1.45 A (Play)	Video Output/ Input	Output/Input level: 1 Vp-p (75 Ω) Output/Input connector: Mini-jack (1 system, Output/Input selectable)
Signal System	PAL 625/50, PAL 525/60	Audio Output/ Input	Output/Input level: 1.5 Vrms (1 kHz, 0 dB) Output/Input connector: Stereo mini-jack (1 system, Output/Input selectable)
Disc Formats Supported	DVD, video CD, audio CD	Digital Audio Signal Output Characteristics	(1) Frequency response: [DVD linear audio] 48 kHz sampling; 2 Hz to 22 kHz 96 kHz sampling; 2 Hz to 44 kHz [CD audio] 2 Hz to 20 kHz (EIAJ)
Weight	910 g		(2) S/N ratio: [CD audio] 115 dB (EIAJ)
Dimensions (W \times H \times D)	160 (W) \times 160 (H) \times 43 (D) mm (when the LCD screen is closed, excluding protrusions)		(3) Dynamic range: [DVD linear audio] 99 dB [CD audio] 97 dB (EIAJ)
Operating Temperature Range	+5°C to +35°C		(4) Total harmonic distortion: [CD audio] 0.003% (EIAJ)
Operating Humidity Range	5 % to 90 % (no condensation)		
Discs Played	(1) DVD-video disc 5" (12 cm) single-sided, single-layer 5" (12 cm) single-sided, double-layer 5" (12 cm) double-sided, double-layer (one layer per side) 3" (8 cm) single-sided, single-layer 3" (8 cm) single-sided, double-layer 3" (8 cm) double-sided, double-layer (one layer per side)	Digital Audio Output	Optical digital output: Mini optical connector (Also used for audio output)
	(2) Compact disc (CD-DA, video CD) 5" (12 cm) disc 3" (8 cm) disc	PHONE Jack	Stereo, 1/4" (6.3 mm) jack
		Pickup	Wave length: 660 nm/780 nm Laser power: CLASS II/CLASS I
		Region Number	Region No. 2

Weight and dimensions shown are approximate.
Specifications are subject to change without notice.

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INTRODUCTION

This service manual contains technical information which will allow service personnel to understand and service this model.

Section 1 presents you with some general information of features and controls, enabling you to become familiar with each function.

Section 2 contributes to your mechanical and electrical adjustment as well disassembly and replacement procedures.

Section 3 contains schematic diagrams which give you detailed information such as waveforms, voltage data, function e.t.c...

Section 4 contains exploded views and parts list.

Please place orders using the parts list and not the drawing reference numbers.

If the circuit is changed or modified, this information will be followed by supplementary service manual to be filed with original service manual.

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. When servicing, observe the original lead dress. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
2. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers shields are properly installed.
3. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the equipment such as screwheads, connectors, control shafts, etc. When the exposed metallic part has a return path to the chassis, the reading should be between $1\text{M}\Omega$ and $5.2\text{M}\Omega$. When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

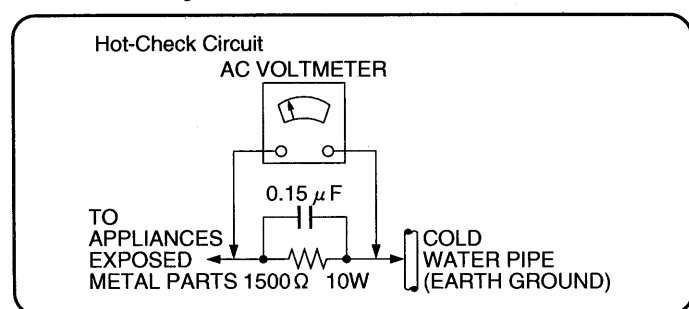


Figure 1

LEAKAGE CURRENT HOT CHECK (See Figure 1.)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a $1.5\text{k}\Omega$, 10 watts resistor, in parallel with a $0.15\ \mu\text{F}$ capacitors, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Figure 1.
3. Use an AC voltmeter, with 1000 ohms/volt or more sensitivity, to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 1/2 milliamp. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the equipment should be repaired and rechecked before it is returned to the customer.

PREVENTION OF ELECTRO STATIC DISCHARGE (ESD) TO ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by electro static discharge (ESD).

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any ESD on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging ESD wrist strap, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static (ESD protected)" can generate electrical charge sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity (ESD) sufficient to damage an ES device).

IMPORTANT SAFETY NOTICE

There are special components used in this equipment which are important for safety.

These parts are marked by Δ in the schematic diagrams, Exploded Views and replacement parts list. It is essential that these critical parts should be replaced with manufacturer's specified parts to prevent shock, fire, or other hazards. Do not modify the original design without permission of manufacturer.

PRECAUTION OF LASER DIODE

CAUTION:

This unit utilizes a class I laser. Invisible laser radiation is emitted from the optical pickup lens when the unit is turned on:

1. Do not look directly into the pickup lens.
2. Do not use optical instruments to look at the pickup lens.
3. Do not adjust the preset variable resistor on the optical pickup.
4. Do not disassemble the optical pickup unit.
5. If the optical pickup is replaced, use the manufactures specified replacement pickup only.
6. Use of control or adjustment or performance of procedures other than those specified herin may result in hazardous radiation exposure.

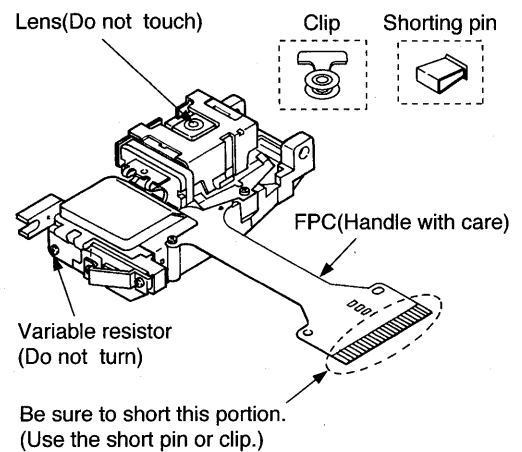
HANDLING PRECAUTIONS FOR TRAVERSE DECK

The laser diode in the optical pickup may break down due to potential difference caused by static electricity of clothes or human body.

So be careful of electrostatic break down during repair of the optical pickup.

Handling of optical pickup

1. Do not subject the optical pickup to static electricity as it is extremely sensitive to electrical shock.
2. To prevent the breakdown of the laser diode, an antistatic shorting pin is inserted into the flexible board (FPC Board).
When removing or connecting the short pin, finish the job in as short times as possible.
3. Be careful not to apply excessive stress to the flexible board (FPC Board)
4. Do not turn the variable resistor (Laser power adjustment).
It has already been adjusted.

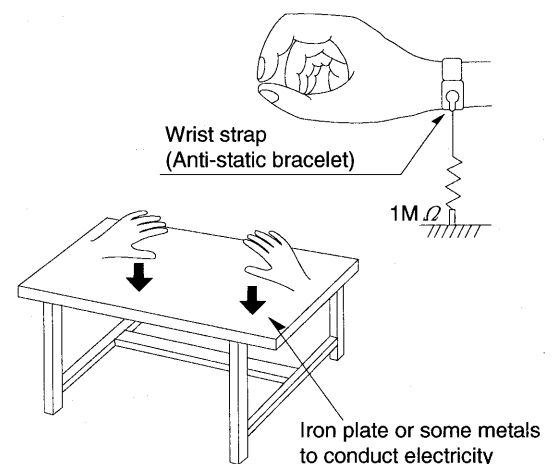


Grounding for electrostatic breakdown prevention

1. Human body grounding
Use the antistatic wrist strap to discharge the static electricity from your body.
2. Work table grounding
Put a conductive material (sheet) or steel sheet on the area where the optical pickup is placed and ground the sheet.

Caution:

The static electricity of your clothes will not be grounded through the wrist strap. So take care not to let your clothes touch the optical pickup.



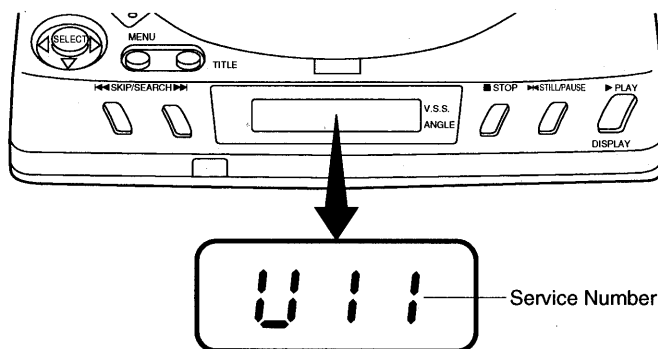
Self-Diagnosis Function for Service Number Display

This unit has a self-diagnosis function which detects a problem or malfunction within the unit and displays its corresponding service number on the display of the unit.

The Service Information Display Mode is used by the technician to help determine the source of a malfunction.

To operate the Service Information Display Mode during servicing, press the [0] (remote control unit) button while pressing the Forward SKIP/SEARCH and STILL/PAUSE buttons simultaneously.

Please refer to the table shown below when a service number has appeared.



Mode	Service Number	Player State	Check Point
During Operation	U11	FOCUS TROUBLE	IC2001, IC2502, IC5201, Pick-up
	H01	INNER COVER TROUBLE	IC2001, IC2502
	H02	SPINDLE SERVO TROUBLE	Disc motor, IC2501, IC2001
	H03	TRAVERSE TROUBLE	Traverse motor, IC2502, IC2001
	H04	TRACKING SERVO TROUBLE	IC2001, IC2501, IC5201, Pick-up, Disc
	H05	SEEK TROUBLE	Traverse motor, IC2502, IC2001
Service Information Display	F0**	DISC FORMAT ERROR	Disc
	F1**	DISC CODE ERROR	Disc
	F2**	DECODER LSI ERROR	IC3001
	F3**	SDRAM ERROR	IC3051, IC3061, IC6301, IC7051
	F4**	IIC BUS ERROR	IC2001, IC4101, IC5201, IC6201, IC6312, IC7001
	F5**	DSC ERROR	IC2001
	F6**	ECC ERROR	IC7001
	F7**	MICRO PROCESSOR ERROR	IC6001, IC6201
	F8**	MICRO PROCESSOR ERROR	IC6001, IC6201

SERVICE INFORMATION

1. Lighting Confirmation Function of Display Tube

SETTING PROCEDURES

During pressing both 「STILL/PAUSE」 and 「SKIP/SEARCH ►►」 buttons on the DVD Player, push 「9」 key of the Remote Controller and then all of the display lights, and the 「POWER」 button is pressed to release.

2. Initialization of the DVD Player

Make initialization of the DVD Player when replacing the Main p.c. board.

INITIALIZATION PROCEDURES

While simultaneously pressing and holding the 「STILL/PAUSE」 and 「SKIP/SEARCH ◀◀」 buttons on the DVD Player, turn on the POWER switch so that the unit is initialized (Factory shipping condition).

The letter of 「INITIALIZED」 is displayed on the screen.

[CAUTION]

When the initialization has been made, the contents of user initial setting is lost.

Therefore, before making initialization, previously memorize the contents of user Initial setting and set the initial setting again after initialization.

3. Lens Cleaning

For cleaning, wipe the Pick-up softly with the new cotton cloth damped with ethyl alcohol.

Never wipe it strongly or the wrong influence will have on the glass coating of the Pick-up.

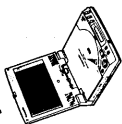
After cleaning, be sure to check no dirt or dust on the lens surface.

SECTION 1 GENERAL DESCRIPTION

1. Operating Instructions (Note: LCD is not equipped for DVD-P10)

Portable DVD/VIDEO CD/CD Player

Compatible with Video CD and CD as well as DVD



Portable type for the user on the go

The player's compact size measuring 160 mm wide, 160 mm deep and 43 mm high and its light weight of only 0.6 kg make it ideal for taking with you wherever you go. The battery pack (supplied) can be used to enjoy playback up to a maximum of 135 minutes.* This length of time varies depending on the player's operating conditions.

GUI (Graphical User Interface) screens

The GUI screens show the disc information or player information and provide access to many major functions of the player.

Multi-audio function

When playing a DVD or Video CD, you can enjoy the audio of up to 8 languages. (The number of audio sound languages depends on the software.)

Multi-subtitle function

Subtitles may be displayed in one of a maximum of 32 languages. (The number of subtitle languages depends on the software.)

Multi-angle function

This function allows you to choose the angle of the scene which was shot from a number of different angles. (Limited to DVDs recorded with multiple camera angles.)

Marker function

This function allows you to store a maximum of 5 scenes in memory, which can be recalled as you like.

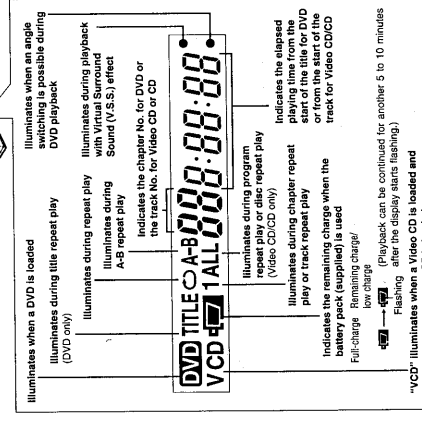
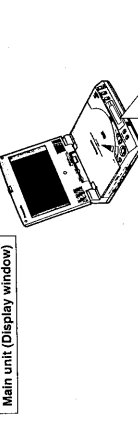
Parental lock function

This function allows you to set a password to prevent playback of DVDs that are unsuitable for children.

Virtual Surround Sound

If the player is connected to external speakers, you can enjoy a 2-channel stereo sound effect which provides a sound as if heard from non-existent rear speakers at the side even when only a 2-channel stereo system is connected for playback of CDs and DVDs.

Control reference guide



Compatible with PAL DVD (Video CD) and NTSC DVD

The player can play discs recorded in either PAL or NTSC format. However, to enjoy video on the TV screen, the player must be connected to a PAL TV which is capable of playing PAL video. The player is compatible with both PAL DVD (Video CD) and NTSC DVD (Video CD).

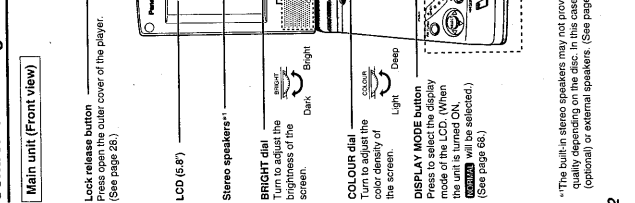
Disc formats supported by this player

Format	Disc Size
DVD	12 cm disc (8 cm disc)
Video CD	12 cm disc (8 cm disc)
CD	12 cm disc (8 cm disc)

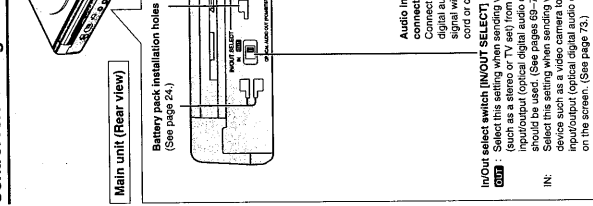
DVD-L10EC Contents

Item	Quantity
DVD-L10E Main unit	1
Video/audio cable	1
Remote control unit	1
Battery pack (size R6P)	1
AC mains lead	1
Battery pack (size R6P)	1
Optional Accessories	1

Control reference guide



Control reference guide



Getting Started

Discs which cannot be played with this player are as follows:
 • DVD-RAM
 • DVD-R
 • DVD+R
 • DVD+RW
 • DVD-RW
 • DVD-RS
 • DVD+RS
 • DVD+RS
 • DVD+RS

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 • DVD+RW
 • DVD-RW
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 • DVD+RS
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Getting Started

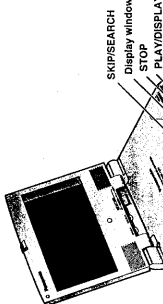
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 • DVD+RW
 • DVD-RW
 • DVD-RS
 • DVD+RS
 • DVD+RS
 • DVD+RS

Getting Started

Discs which cannot be played with this player are as follows:
 • DVD-RAM
 • DVD-R
 • DVD+R
 • DVD+RW
 • DVD-RW
 • DVD-RS
 • DVD+RS
 • DVD+RS
 • DVD+RS



Still picture/pause

Press STILL/PAUSE during play.

- **Returning to normal play**
Press STILL/PAUSE (in the case of the remote control, PLAY).

Frame advance

Press STILL/PAUSE in the still picture mode.

- The disc is advanced by one frame each consecutive frame advance works.

- **Returning to normal play**
Press PLAY/PAUSE (in the case of the remote control, PLAY).

Note:
• Whether the pictures are advanced by a frame or field is automatic. (See page 67.)

Enjoying Video CD playback without using menus (Video CD only)

- 1 Press STOP after the menu screen appears.
(“P.B.” will be cleared from the display window.)

- 2 Select the preferred track number by pressing SKIP/SEARCH and press PLAY/PAUSE.
• In the case of the remote control, select the preferred track number by pressing SKIP and press PLAY. (Playback starts.)

- The numeric buttons of the remote control unit can also be used for entering the track numbers.
- Refer to the jacket etc. of the disc to select the track.
- Select “track 1” to start play from the beginning of the disc.

Returning to menu play

Press STOP twice to stop playback, press PLAY/PAUSE (in the case of the remote control, PLAY) to return to the menu screen and the menu appears on the screen. Select the preferred item using the numeric buttons.

For your reference:
• In these instructions, playback using the menu screen is referred to as “menu play” for Video CDs.

Video CD/CD

Change the track No. using the joystick (cursor buttons) [▲▼] or the Track No. [1-9] (See page 81.) (The track No. cannot be changed during menu play of Video CDs with playback control.)

Elapsed playing time (minute:second)

Playback control (Video CD only) OFF | Menu play is not ON. | Menu play is ON.

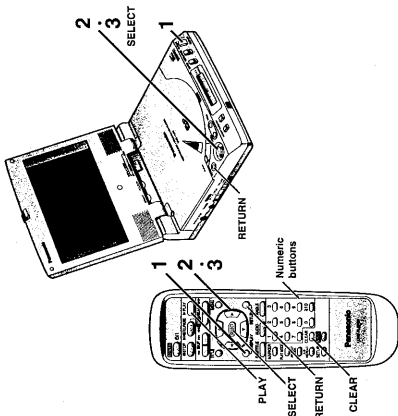
3:37

Change the mode using the joystick (cursor buttons) [▲▼].
Audio mode (Video CD only) L-R | Audio channel L-R | Audio channel R

For your reference:
• In the case of the remote control, the items can be changed using the cursor buttons instead of the joystick.
• “▲▼” around the icon means that the item can be changed using the joystick (cursor buttons) [▲▼].

• Track No. and the elapsed playing time are not displayed during menu play of Video CDs.
• It is not possible to turn playback control ON or OFF using the GUI screen.

This player features GUI (Graphical User Interface) screens consisting of icons showing disc information (file/chapter/track number, elapsed playing time, auto/still/stop language information) and other information. Press the joystick (cursor buttons) [▲▼] and some icons show the indicated information and other icons allow the settings to be changed.



For your reference:
• The PLAY/PAUSE button of the main unit functions both as a PLAY button and a DISPLAY button (for displaying the GUI screen) when the button is pressed during menu play. The GUI screen will be displayed if pressed in the stop mode, playback will start.

Detailed descriptions of each icon (Screen for player information)

Press SELECT during play to store location A and press SELECT again to store location B and to start repeat play between the stored two locations. Press SELECT again to return to normal play.

Repeat play (See page 42.)	Normal play	DVD
OFF	Chapter repeat play	Video CD
ON	Time repeat play	Video CD
OFF	Normal play	Video CD
ON	Disc repeat play	Video CD

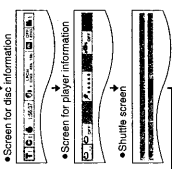
Play mode (Video CD/CD only) (See pages 40-46.)	PRG	Program play
OFF	---	Normal play
ON	---	Random play
ON	---	Normal play

Select the preferred mode during play using the joystick (cursor buttons) [▲▼].
Virtual Surround (V.S.S.) effect (See page 54.) 1 | V.S.S. emphasized effect

Press SELECT during play and press SELECT again at the preferred point to store a marker. (Marker no. is displayed instead of “-”).
• To recall a marker, select the preferred marker no. using the joystick (cursor buttons) [▲▼] and enter the selection using the joystick (cursor button) [1].
• To clear a marker, select the preferred marker no. using the joystick (cursor buttons) [▲▼] and press CLEAR.

Example: DVD

- Normal playback screen



- Screen for disc information

- Screen for player information

- Shuttle screen

- Screen for disc information

- Screen for player information

- Shuttle screen

- Each time the button is pressed, the screen changes and shows the right, left, up, or down arrow after depending on the disc contents.

Select the preferred item by using the joystick (▲▼).

- In the case of the remote control, select the item using the cursor buttons. (The currently selected item is indicated by a yellow frame on the GUI screen.)

Select the preferred item by using the joystick (▲▼).

- When numbers are displayed (e.g. title No.), the numeric buttons of the remote control unit can also be used. When the numeric buttons are used, press SELECT or PLAY/PAUSE (in the case of the remote control, PLAY) must be pressed. Some functions cannot be accessed from the stop mode.

The PLAY/PAUSE button on the main unit does not work during menu play of a Video CD with playback control.

- The PLAY/PAUSE button of the remote control unit is effective to show the GUI screen even in the stop mode. If pressed in the stop mode, playback will start.

For your reference:

- If a TV set is connected to the player, depending on the type of the DVD software and the TV, with automatic picture zoom and the TV, the picture may not be displayed only partially displayed on the TV screen.
- During playback of a CD, set the display mode of the LCD to “OFF” to conserve power and to prevent battery consumption. (See page 66.)

Detailed descriptions of each icon (Shuttle screen)

Still/pause Tilt the joystick [▲▼] or press the cursor button [1]. (TV is displayed for CDs.)

Slow-motion play (Backward) Tilt the joystick [◀] or press the cursor button [2] (DVD only)

Slow-motion play (Forward) Tilt the joystick [▶] or press the cursor button [3] (DVD/Video CD only)

Rapid reverse Tilt the joystick [◀] or press the cursor button [4]

Play Tilt the joystick [▶] or press the cursor button [5]

For your reference:
• In the case of the remote control, the items can be changed using the cursor buttons instead of the joystick.
• A-B repeat play, repeat play and marker functions do not work with interactive DVDs or during menu play of Video CDs with playback control.
• The speed of rapid reverse, rapid advance and slow-motion play charges up to 5 steps each time the joystick is tilted or the cursor button is pressed.

Changing the initial settings

When "1 Disc Languages" is selected

See page 55 for steps 1 and 2.

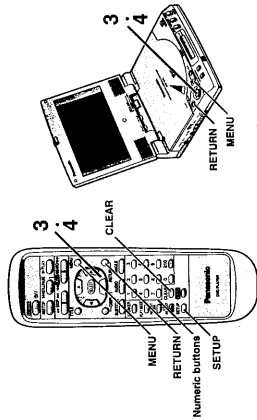
3 Select the preferred item by using the joystick (▲ ▼) and press SELECT.

- In the case of this remote control, select the item using the cursor buttons.

- 1 Audio
This is to select the audio soundtrack language heard from the speakers.
- 2 Subtitle
This is to select the subtitle language displayed on the screen.
- 3 Menu
This is to select the language used in the menus recorded on the discs such as title menus.

Press RETURN to return to the previous menu.

Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)



For your reference:

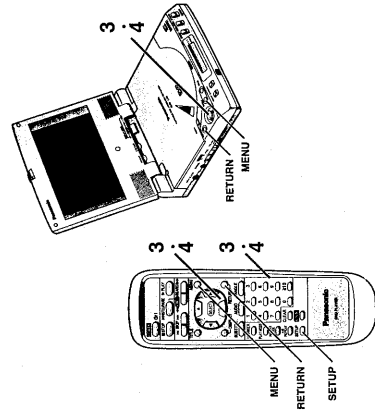
- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)
- Returning to the previous menu: Press RETURN.
- Finishing the initial settings: Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)

56

Changing the initial settings

When "2 Ratings" is selected

When playback is restricted (Level 0~Level 7)



For your reference:

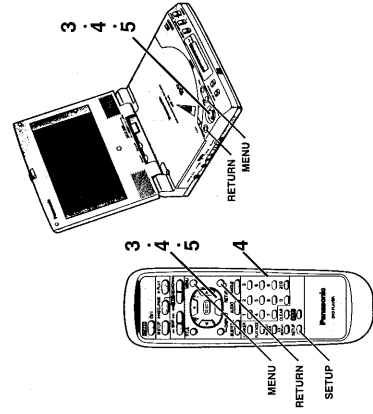
- In the case of the remote control, the numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)
- Returning to the previous menu: Press RETURN.
- Finishing the initial settings: Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)

60

Changing the initial settings

When "2 Ratings" is selected

When playback is not restricted (Level 8)



Notes:

- Do not forget your password.
- When the rating is locked, the settings cannot be changed unless the correct password is entered.

For your reference:

- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)
- Returning to the previous menu: Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)

58

Changing the initial settings

When "3 Menu Language" is selected

See page 55 for steps 1 and 2.

3 Select the preferred language by using the joystick (▲ ▼) and press SELECT.

- In the case of the remote control, select the item using the cursor buttons.



- 1 English (Factory preset)
- 2 French
- 3 German
- 4 Italian
- 5 Spanish
- 6 Dutch
- 7 Other

(Setting is finished and the screen illustrated in step 1 on page 55 is displayed.)

For your reference:

- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)

62

Changing the initial settings

When "2 Ratings" is selected

See page 55 for steps 1 and 2.

3 Select the preferred level by using the joystick (▲ ▼) and press SELECT.

- In the case of the remote control, select the item using the cursor buttons.

Notes:

- Level 8 (Factory preset)
All DVDs (for adult/general audiences/children) can be played back.
- Level 7~Level 2
DVDs for general audiences/children can be played back.
- Level 1
DVDs for children can be played back.
- Level 0
DVDs for adult/general audiences are prohibited.
- Level 0
DVDs for adult/general audiences are prohibited.

Press back of all DVDs is prohibited (e.g., to prohibit playback of DVDs for adults which are not encoded with rating level information).

For your reference:

- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)
- Returning to the previous menu: Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)

When level 7 or lower is selected,

4 Enter a 4-digit password by pressing the numeric buttons and press SELECT.

Press MENU at the initial settings screen illustrated in step 1 on page 55. (In the case of the remote control, press SETUP, MENU or "0".)

5 Press SELECT.

(Setting is finished and the screen illustrated in step 1 on page 55 is displayed.)

59

Changing the initial settings

When "4 On-Screen Messages" is selected

See page 55 for steps 1 and 2.

3 Select "On" or "Off" by using the joystick (▲ ▼) and press SELECT.

- In the case of the remote control, select the item using the cursor buttons.



- 1 On (Factory preset)
On-Screen Messages such as "Play" and "Still" will always be displayed on the screen.
- 2 Off
On-Screen Messages such as "Play" and "Still" will not be displayed on the screen.

(Setting is finished and the screen illustrated in step 1 on page 55 is displayed.)

For your reference:

- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)

63

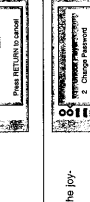
Changing the initial settings

When "5 TV Aspect" is selected

See page 55 for steps 1 and 2.

3 Select the appropriate TV aspect by using the joystick (▲ ▼) and press SELECT.

- In the case of the remote control, select the item using the cursor buttons.



- 1 4:3
Select when a conventional TV set is connected.
- 2 16:9
Video material for wide-screen formatted in the Pan & Scan style.
When played back in the Pan & Scan style, the left and right edges are cut off.

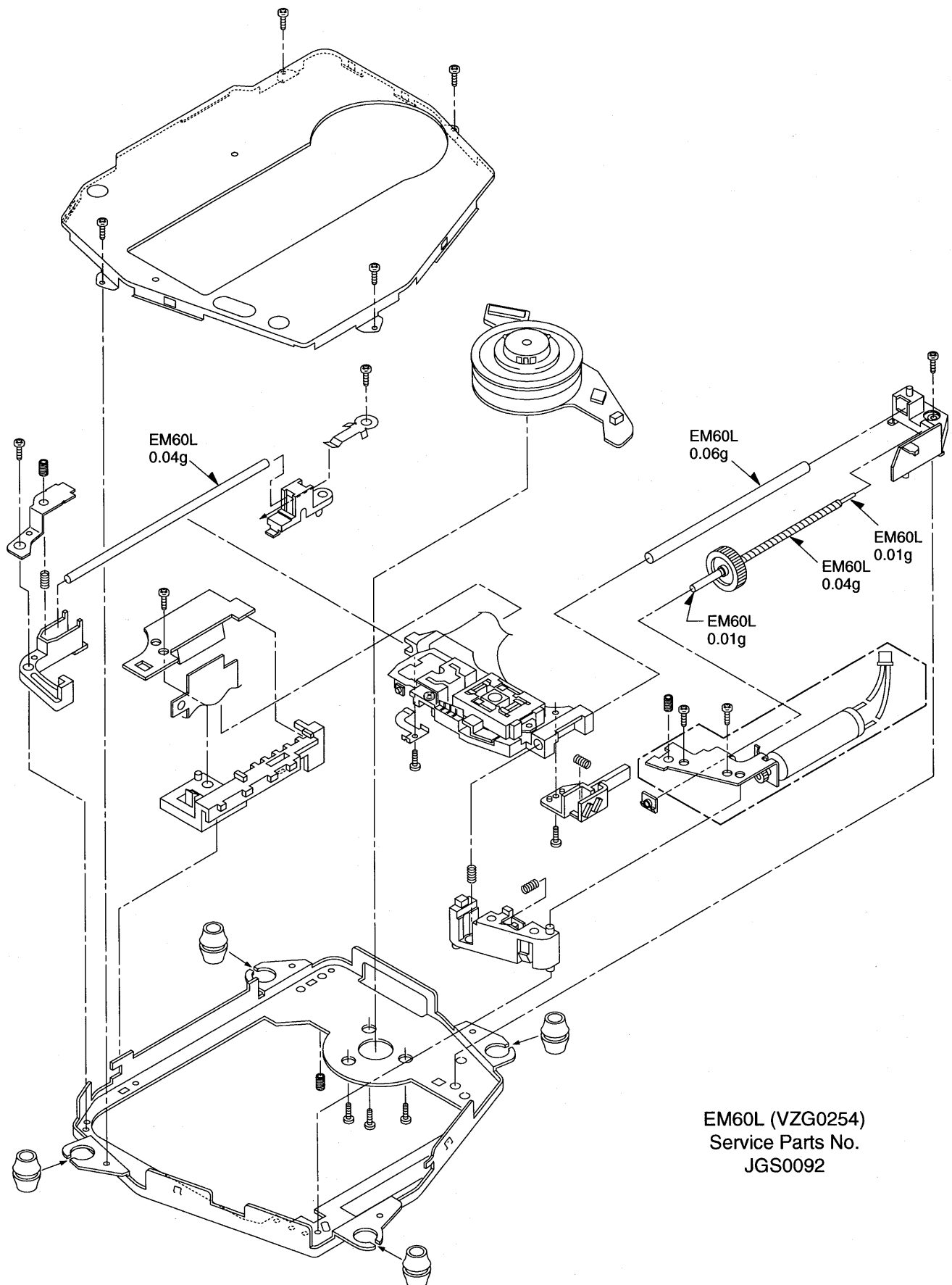
(Setting is finished and the screen illustrated in step 1 on page 55 is displayed.)

For your reference:

- The numeric buttons can also be used for selecting the items. (In this case, pressing SELECT is not necessary.)

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Lubrication Information



EM60L (VZG0254)
Service Parts No.
JGS0092

SECTION 2 ADJUSTMENT PROCEDURES

1. Service Flow Chart

Disassembly/ Reassembly	Main Check Points	Adjustments
Bottom Plate	Main C.B.A. (Bottom Side)	
LCD Monitor 1. Front Panel 2. LCD Panel Replacement 3. Back Light Replacement	LCD Drive C.B.A.	LCD Adjustment
Main Unit Disassembly	Main C.B.A. (Upper Side)	Y/C Adjustment
Traverse Unit		No Adjustment
Replacement of Optical Pick-Up Unit		Confirmation / Adjustment

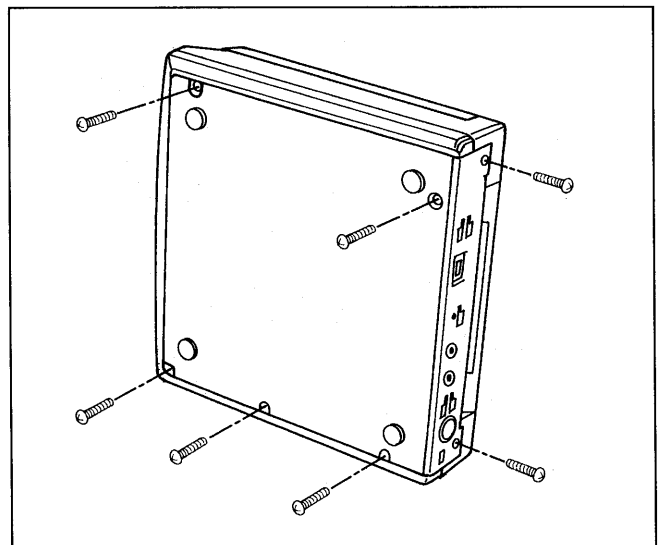
2. Disassembling and Reassembling the Casing Parts

Caution:

Make disassembling without any disc in the unit, and be careful not to scratch or otherwise damage the LCD surface.

2-1. Removing the Bottom Panel

1. Remove the screws on the rear panel of the unit.
2. Remove the screws on the bottom panel of the unit.



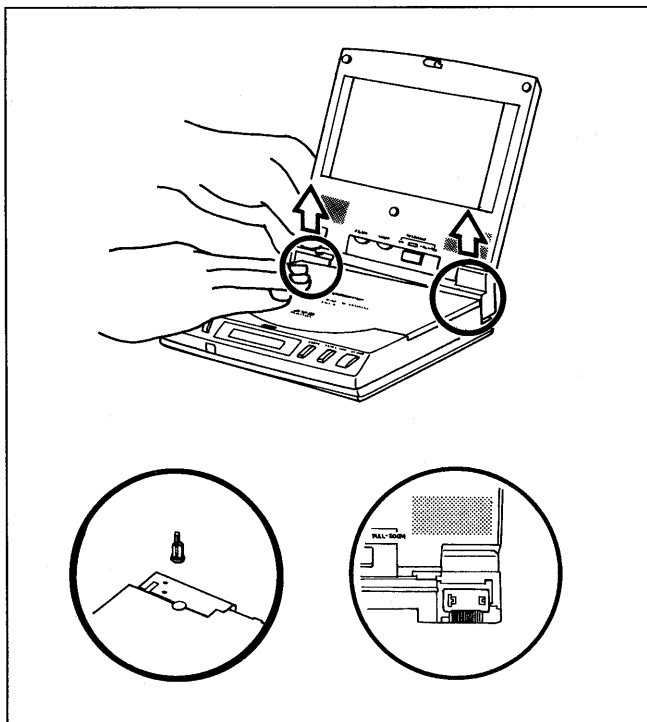
2-2. Removing the LCD Monitor Unit

1. Separate the LCD Monitor Unit from the main unit.

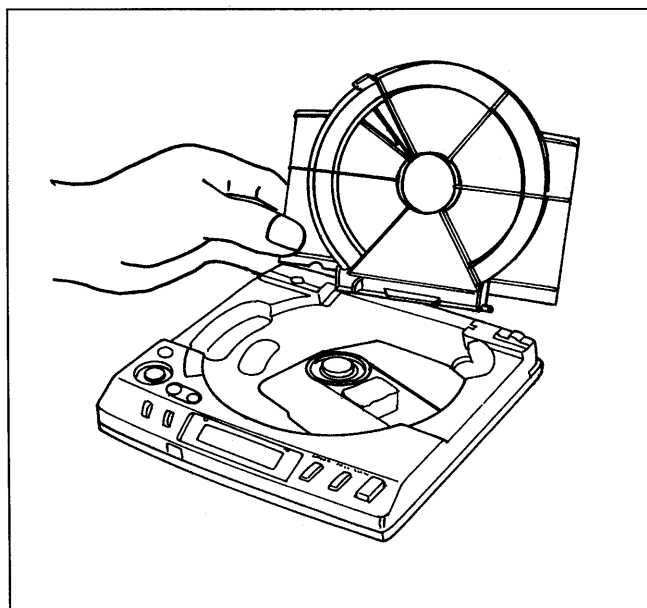
Caution:

Be careful not to damage the circled sections, since these are the sections that connect to the main unit.

Be careful not to lose the open/shut detection piece when removing the LCD display.

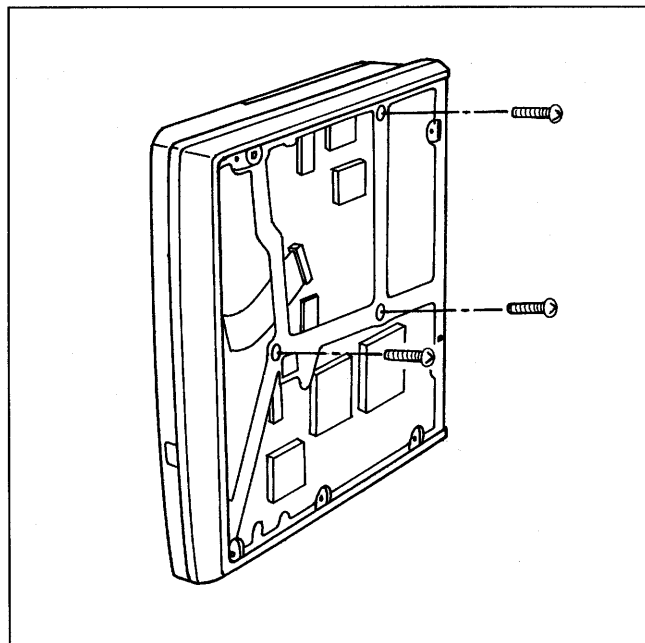


2. After removing the LCD display you can then remove the Inner Cover.



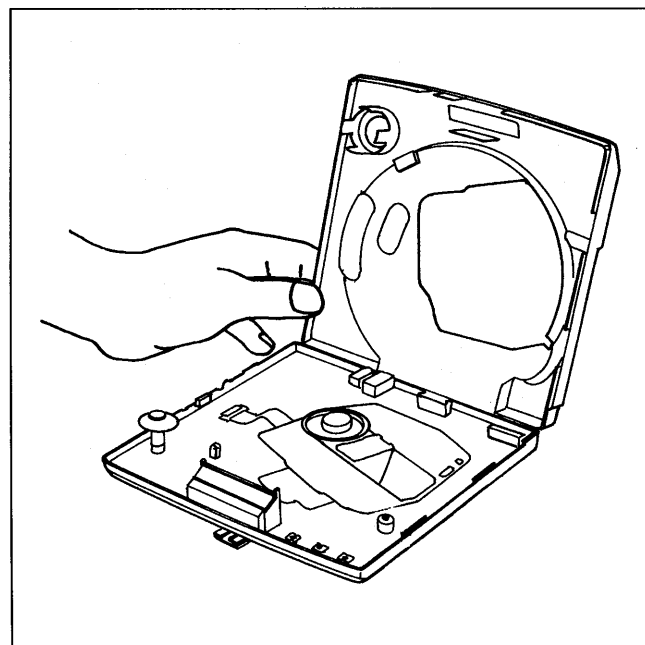
2-3. Disassembling the Main Unit

1. Remove the screws on the bottom of the main unit.



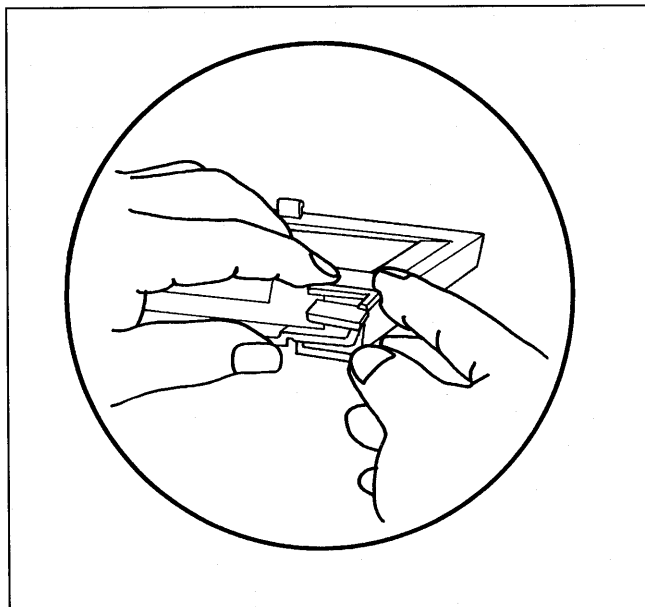
2. Remove the Cabinet

When disassembling, the frame and traverse Unit are set with one screw. Also please take care not to lose the power switch knob.



<Reassembly>

Reassemble carefully in the reverse order from disassembly. Remove the laser short when changing the traverse Unit. Refer to the following drawing when assembling the hinge base.



3. Disassembling the LCD Display

Caution:

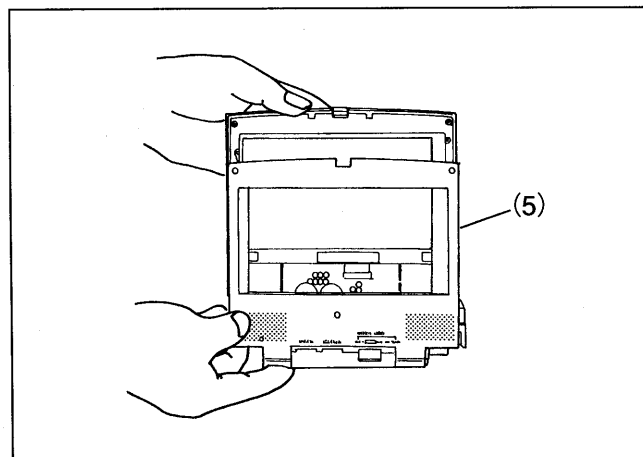
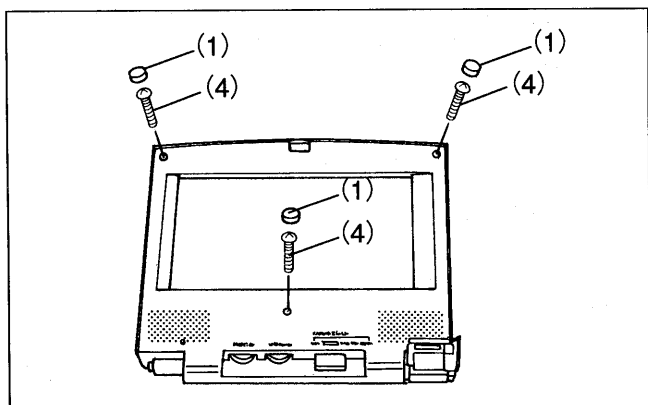
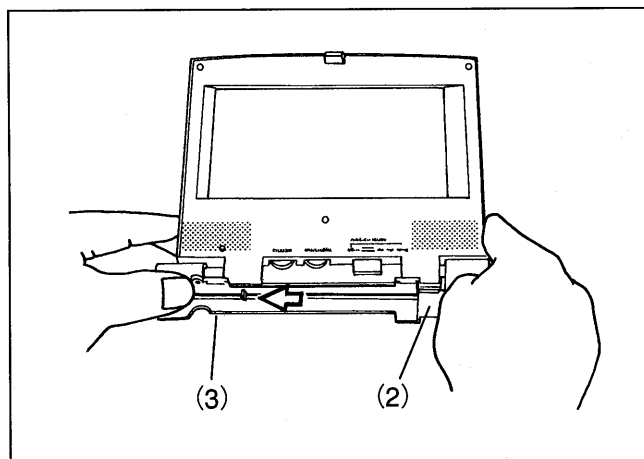
When testing electricity flows after disassembling the unit, be careful to avoid shocks from high voltage components, and be careful not to scratch or otherwise damage the LCD surface.

3-1. Removing the Monitor Cover

1. Carefully remove the screw cover, using a pair of tweezers or similar tool.
2. Shift hinge base B slightly to the right.
3. Slide hinge base A to the left.
4. Remove the front panel setting screws.
5. Slide the front panel in the direction indicated by the arrow, and remove.

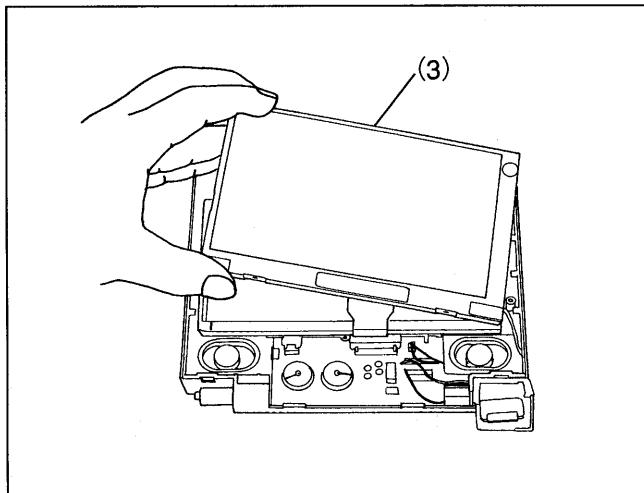
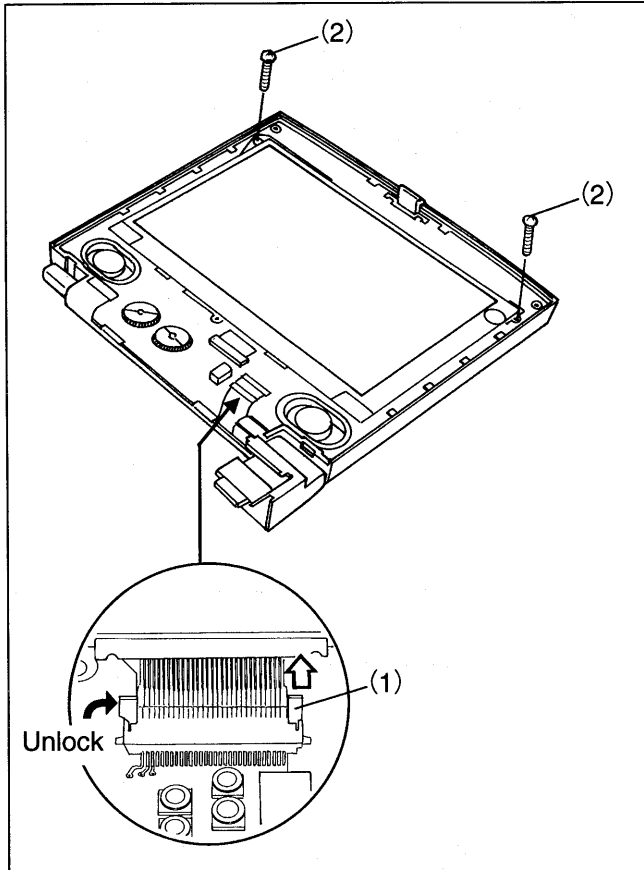
(Note)

Be careful not to disconnect the flexible cable that connects the LCD panel to the main unit.



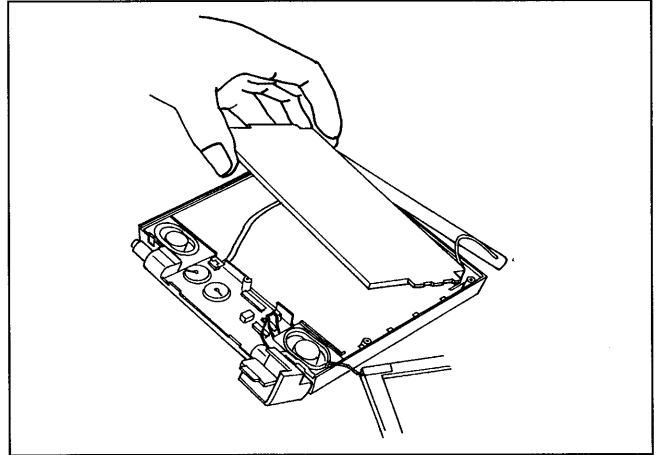
3-2. Removing the LCD Panel

1. Unlock the locked connector and remove the flexible cable.
2. Loosen the LCD panel setting screws.
3. Remove the LCD panel so that it does not get damaged.
4. Remove the solder on the grounding wire.



3-3. Removing the Back-light

1. Remove the back-light under the LCD panel.
2. The back-light is a fluorescent light. Be careful to keep the light from cracking.



<Reassembly>

Reassemble carefully in the reverse order from disassembly.

1. Firmly lock the locking connector
2. Insert the flexible cable for the LCD panel below the printed circuit board.
3. The backlight is a fluorescent light. Be careful to keep the light from cracking.

Note:

Make sure that there is no dust between the LCD panel and the back-light (even a little dust will make the LCD panel appear to be defective).

<Handling the LCD Panel>

1. If ghosting should occur for the LCD panel, turn off the power and leave standing for a day or so.
2. The LCD panel is a high precision glass product. Care should be taken, as vibrations, shocks or warping can cause the unit to break.
3. Do not touch the terminal sections of the flexible cable for the LCD panel with your bare hands, as static electricity may damage the panel.
4. Promptly wipe any moisture off on the surface of the panel, since water droplets left on the panel for an extended period may cause discoloration or stains.

(Cleaning)

1. When cleaning the display surface, wipe gently with a soft cloth soaked thoroughly with isopropyl alcohol or petroleum benzene.
2. Do not wipe with a dry cloth as this can scratch the surface.
3. When cleaning do not for any reason use water, ketone, aromatics or halogen substances.

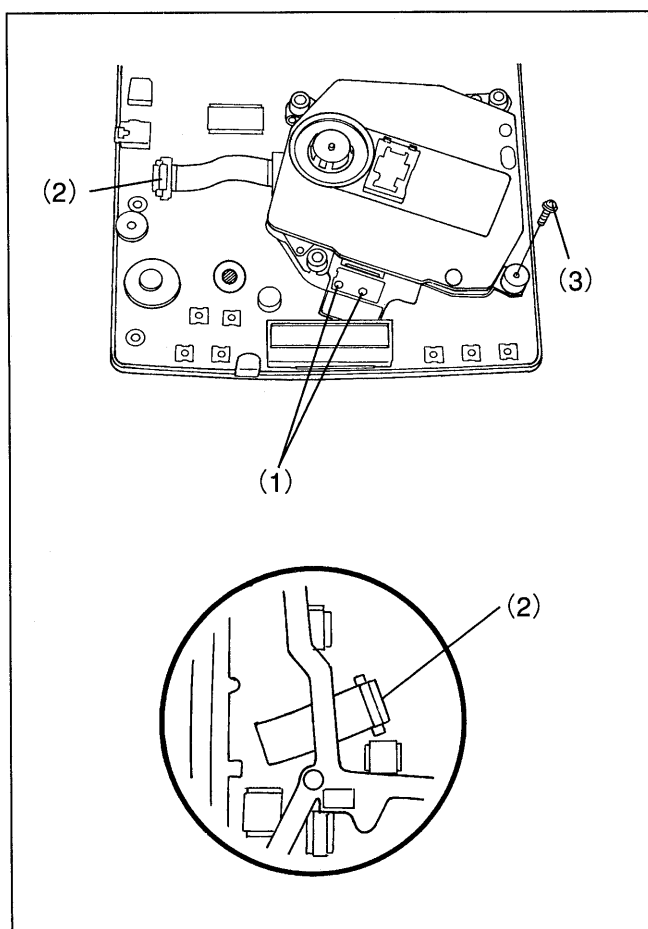
4. Replacement of the Traverse Unit

Caution:

When servicing the traverse unit, steps must be taken to prevent static electricity. Please perform the following only after static electricity countermeasures have been taken.

4-1. Removing the Traverse Unit

1. Solder the laser short land on the Interface C.B.A. (2 points).
2. Unlock the locked connector and remove the flexible cable (2 locations).
3. Remove the screw of the traverse unit.



4-2. Installing the Traverse Unit.

The Traverse Unit is a pre-adjusted component. Do not touch the adjustment screws.

1. Assemble the flexible cable and damper with the Traverse Unit and place it at the designated positions on the main unit, and set with the screws.
2. Connect the flexible cables connected to the traverse unit and lock the connector firmly.
3. Remove the solder on the laser short land of the flexible cable (unless the solder is fully removed, the laser diode will not emit light).
4. No adjustment is needed when replacing the Traverse Unit.

5. Replacing the Optical Pick-Up Unit

Cautions when replacing the optical pick-up unit.

1. When servicing the optical pick-up unit, steps must be taken to prevent static electricity.
2. Perform the replacement on a work table in a clean, dust free environment.
3. Only replace the optical pick-up unit as the replacement part. Don't replace the another part in the unit, since adjustment may not be possible.
4. Be careful not to lose small parts such as springs or screws when disassembling the traverse unit.

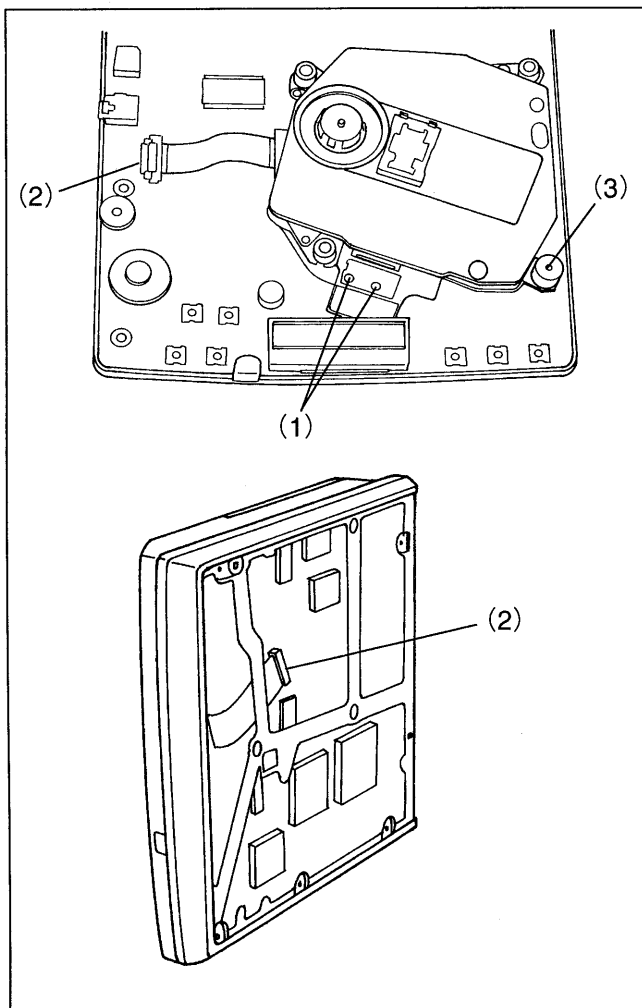
Caution:

The Traverse Unit is a high precision optical component. Do not touch around the lens or expose the traverse unit to jarring or shocks.

5-1. Confirm Before Removing the Optical Pickup Unit

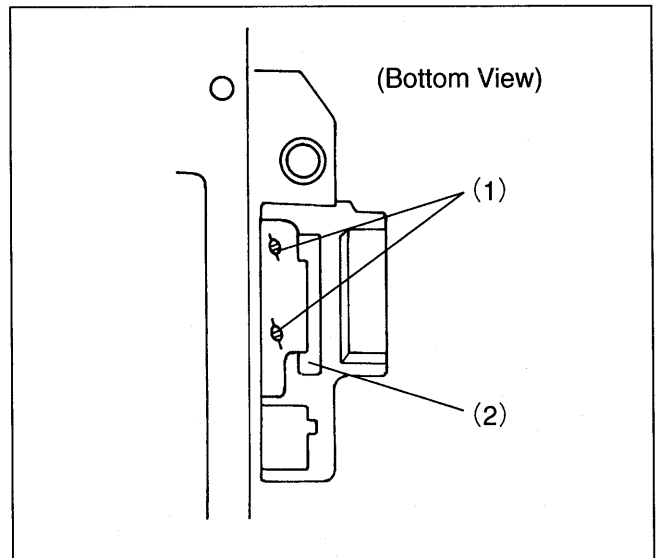
Before replacement of the optical pick-up, perform the following steps surely.

1. Solder the laser short land on the interface C.B.A. (2 points).
2. Unlock the lock of connector and disconnect the flexible cable.
3. Unscrew the screws on the traverse unit.



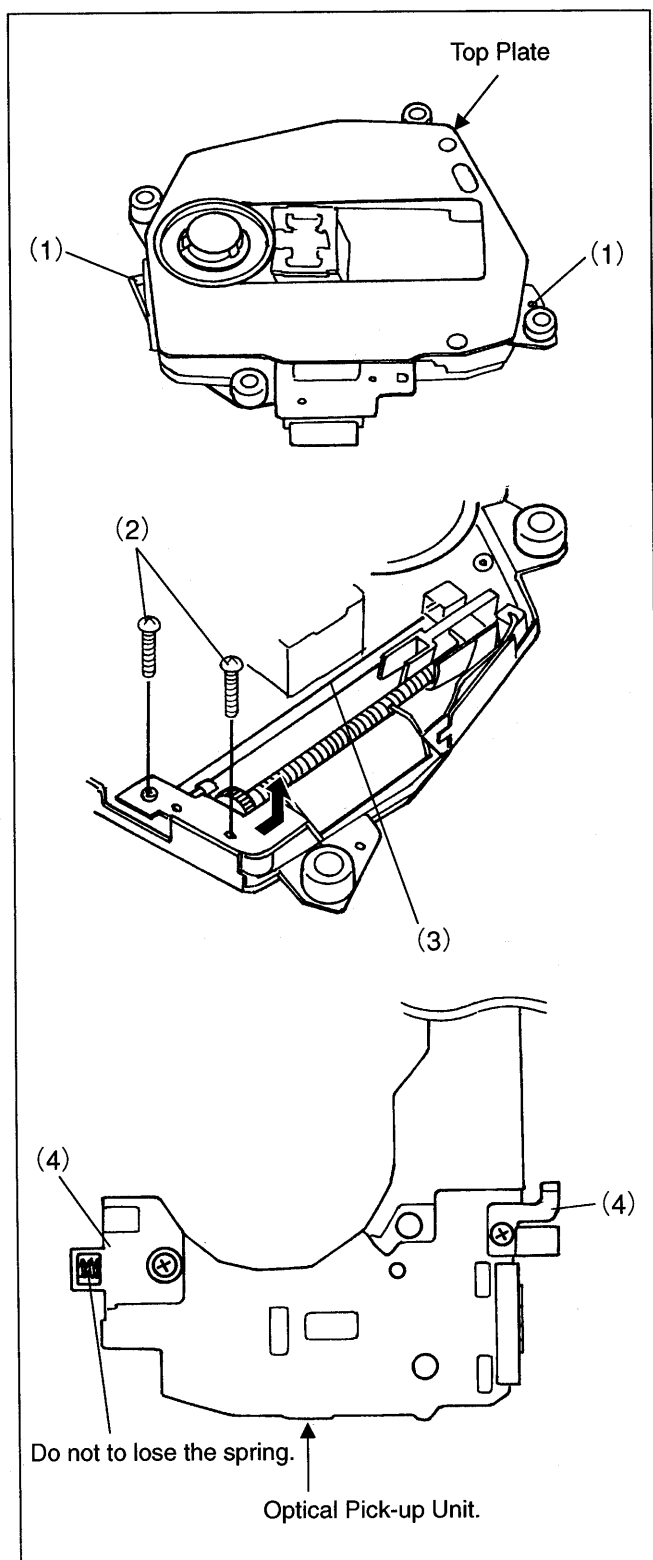
5-2. Countermeasures to Prevent Static Electricity

1. Solder the short land on the flexible cable of the optical pickup unit at the bottom of the Traverse Unit (2 points).
2. Remove the flexible cable on the optical pick-up unit (locking connector).



5-3. Removing the Optical Pick-up Unit

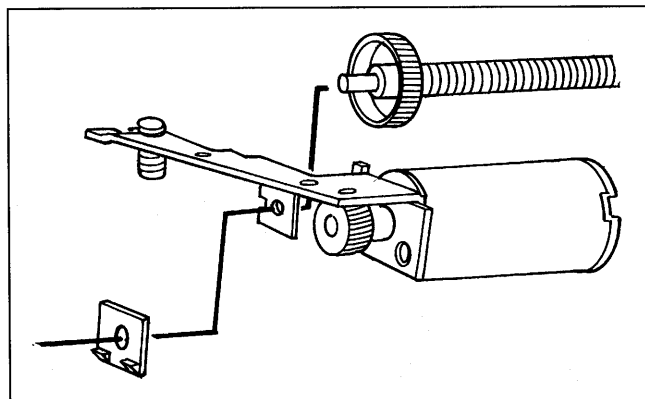
1. Remove the screws and lift off the top plate of the Traverse Unit.
2. Remove the screws of the gear box, and lift it.
3. Remove the optical pick-up unit while lifting the shaft (be careful of the spring under the shaft).
4. Replace the optical pick-up unit (be careful not to lose any springs or screws).



5-4. Installing the Optical Pick-up Unit.

Traverse Unit is a pre-adjusted component. Do not touch the adjustment screws.

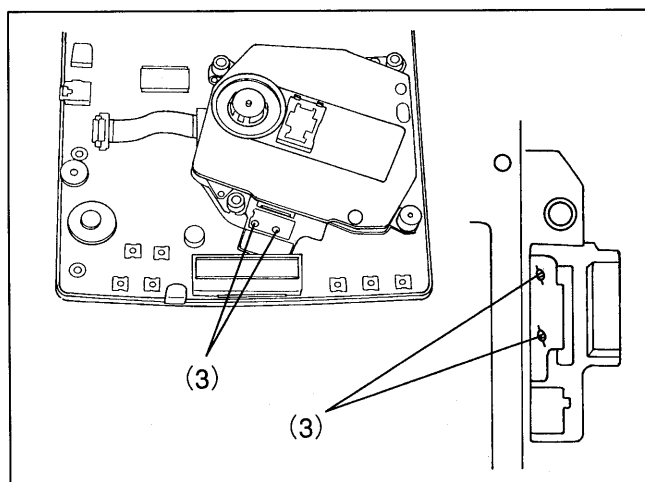
1. Pass the shaft through the optical pickup and set the position.
2. Temporarily assemble the gear box and install to the specific position.



<Confirmation After Installing the Optical Pick-up Unit>

After completing Installation of the optical pick-up unit, verify the following procedures:

1. Remove the two soldered short points on the flexible cable for the optical pickup.
2. Install the Traverse Unit and connect the flexible cable to the main unit.
3. Finally, remove the two soldered short points on the Traverse Unit.



After replacing the optical pick-up unit, confirm the picture quality and perform optical adjustment.

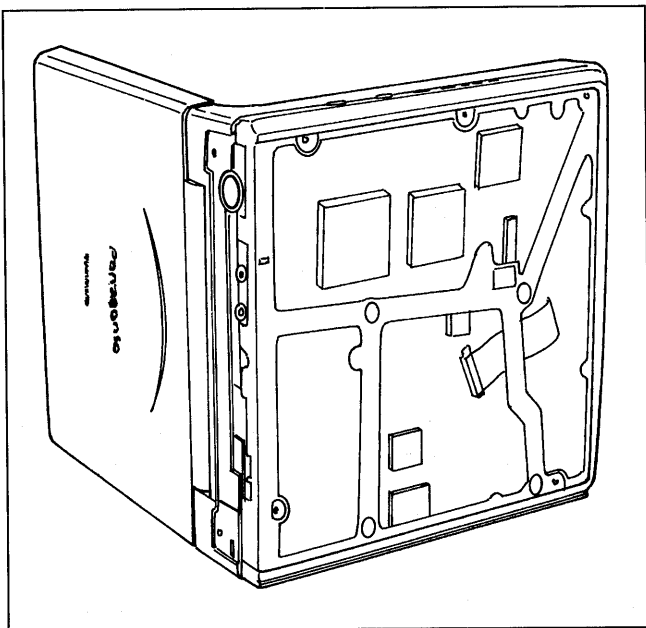
6. Service Information in Adjustment

Caution:

If the laser has to be turned on, such as when checking the playback, do not look under any condition at the laser beam.

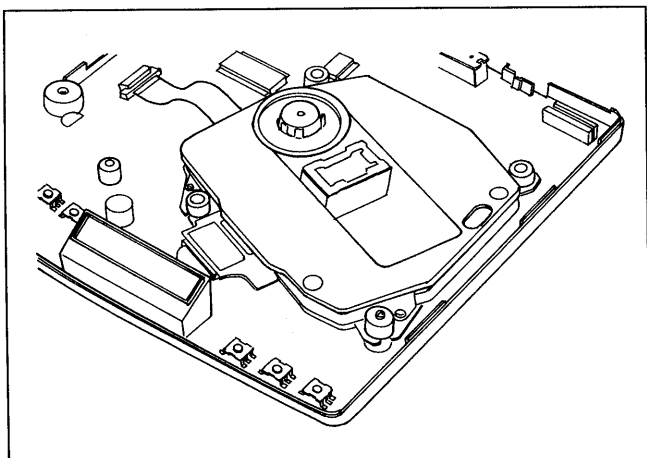
6-1. Checking the Main C.B.A. (1)

1. The main C.B.A. can be checked by removing the bottom plate.



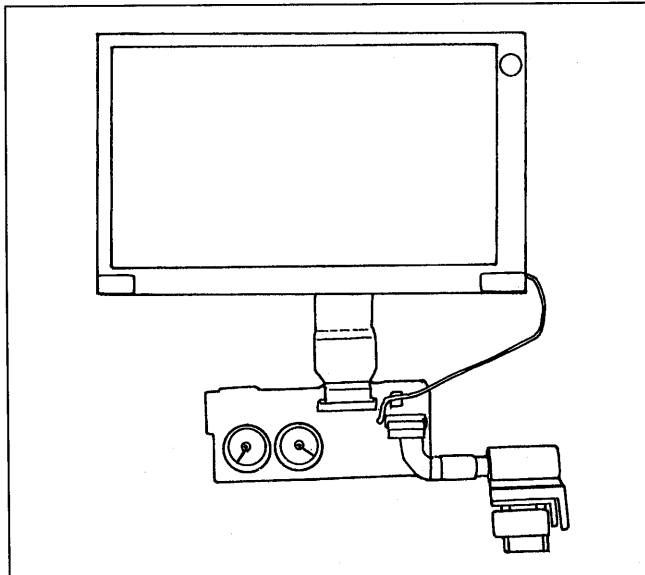
6-2. Checking the Main C.B.A. (2)

1. Disassemble the main unit to the upper and the lower section.
2. Turn the inner cover detection switch ON (SW5201, SW5201).



6-3. Checking the LCD Drive C.B.A.

1. Disassembly as shown in the figure below and the checking of the drive C.B.A. can be made easily.



<Initializing DVD Player>

After repair has been completed initialize the DVD Player.

<Initializing Method>

While simultaneously pressing and holding the [STILL/PAUSE] and [SKIP/SEARCH ►►] buttons on the player, turn on the POWER switch. The DVD player will then be initialized at the factory shipping condition. During initializing, "INITIALIZING" or "INITIALIZED" are displayed on the LCD Display and External Monitor.

Caution:

When the initialization has been made, the contents of user initial setting is lost. Therefore, before making initialization, previously memorize the contents of user initial setting and

7. Adjustment Procedures

Caution:

Take static electricity countermeasures prior to beginning adjustment of the optical system, and perform adjustments as following procedures.

<Equipment Required for Adjustment>

1. Measuring Equipment
Oscilloscope and other general measuring equipment
2. DVD Test Disc
Part No.: DVDT-S01 (Single Layer)
3. Video-CD/CD-DA Test Disc
Part No.: PVCD_K06 or other disc sold on the market.
4. Other
Conventional tools, Hex. Wrench etc.

<Pre-caution for Optical adjustment.>

1. Tilt Adjustment is necessary for optical adjustment whenever the following parts have been replaced:
 1. Replacing the disc motor.
 2. Replacing the optical pick-up unit.
 3. Replacing the Traverse Motor.
 4. Replacing parts around the laser pick-up (rails, etc.).
 Primarily adjustments are not required for replacing other parts included in the Traverse Unit. Adjust, however, if the picture degrades. Optical adjustment of the optical pick-up cannot be performed.
2. Primarily adjustment is not necessary when the Traverse Unit has been replaced.
3. Adjust as directed in the adjustment guidelines.

<Storing and Maintaining Test Discs>

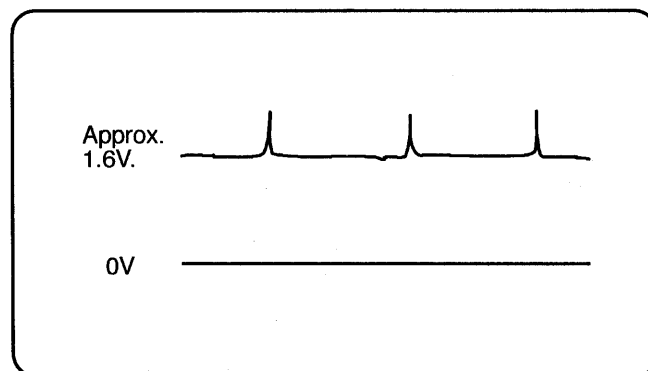
Surface precision is required for the DVD test disc. Care is necessary when storing and maintaining the disc.

1. After use, do not place the disc directly on a table or similar surface.
2. Handle the disc carefully, so that it maintains its flat surface, and store it vertically in its exclusive case after use. Store in a cool location that is not exposed directly to sunlight or breezes from air conditioning.
3. Accurate adjustment will not be possible if the disc has been placed on a glass or similar surface, causing the disc to warp. Use a new test disc to perform optical adjustment.
4. If a warped disc is used for adjustments, the adjustments will be distorted, and it may not be possible to play other discs.

7-1. Optical (Mechanical) Adjustment

7-1-1. Tilt Adjustment

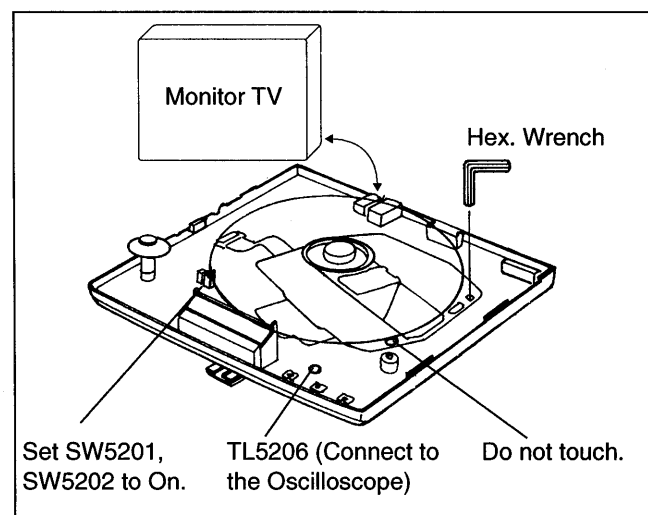
Measurement Point	Adjustment Point	Mode	Test Disc
TL5206	Tilt Adjustment Screw	PLAY (Title 8)	DVDT-S01
Measurement Equipment		Adjustment Value	
Oscilloscope (DC Mode)		Minimized the voltage value at TL5206	



Remove the soldered short points before adjustment.

Purpose: To minimize jitter elements.

1. Set as the figure below.
 - 1-1. Connect lead line to TL5206 and connect to the oscilloscope.
 - 1-2. Connect the monitor TV, in order to confirm the playback picture.
(The LCD display is not needed.)
 - 1-3. Turn the SW5201, SW5202 On, since playback is not possible when the disc cover has been removed.
2. Play Title 8 of the DVD test disc.
3. Turn the adjustment screw several times to the left and right so that the TL5206 voltage value is minimized. Adjustment will become impossible if turned too many times.



7-2. LCD Display Adjustment (for DVD-L10)

After replacing the LCD panel, perform the following checks and adjustments. A back light is necessary for adjustment, and the "BRIGHT" and "COLOR" volume must be adjusted to the center position.

7-2-1. White Balance Adjustment (for DVD-L10)

Measure-ment Point	Adjustment Point	Mode	Test Disc
LCD Display	VR8001 VR8002	10 Step (TITLE 19)	DVDT-S01
Measurement Equipment		Adjustment Value	
Naked eye		Adjust so that the overall image becomes black and white.	

Purpose: Adjust white as the standard of color

1. Cut the color signal off as shown method below.
2. Play Title 19 of the DVD test disc.
3. Adjust VR8001 (W/B-B) and VR8002 (W/B-R) mutually so that the overall LCD image becomes white and black.
4. After adjusting, reset the color signal cut.

7-2-2. Adjustment During ZOOM Mode (for DVD-L10)

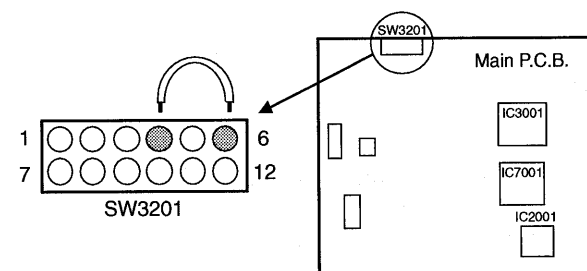
Measure-ment Point	Adjustment Point	Mode	Test Disc
LCD Display	VR8403	Color Bar (TITLE 12)	DVDT-S01
Measurement Equipment		Adjustment Value	
Naked eye		Adjust so that the horizontal lines is reduced during ZOOM.	

Purpose: Adjustment so that the horizontal lines during Zoom are not obvious.

1. Play back Title 12 of the DVD test disc.
2. Set the display mode to ZOOM.
3. Adjust VR8403 to reduce the horizontal lines on the LCD display.
4. Horizontal lines will not be completely eliminated during ZOOM.

Method of Cutting Off the Chromatic Signal

Short-circuit No. 4 and No. 6 of SW3201 by a lead wire.

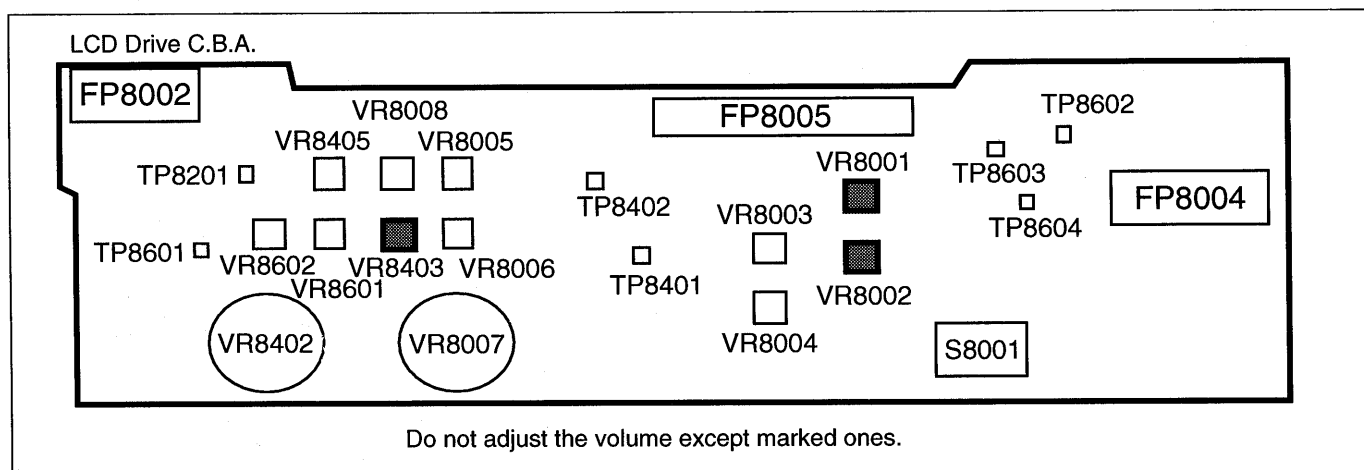


After adjustment reset the cut-off color signal to its original state.

<Confirmation After Adjustment>

Playback the test disc or a disc sold on the market, and confirm that the colors are displayed properly.

Location of Test Points & Controls.



7-3. Electrical Adjustment (Main Unit)

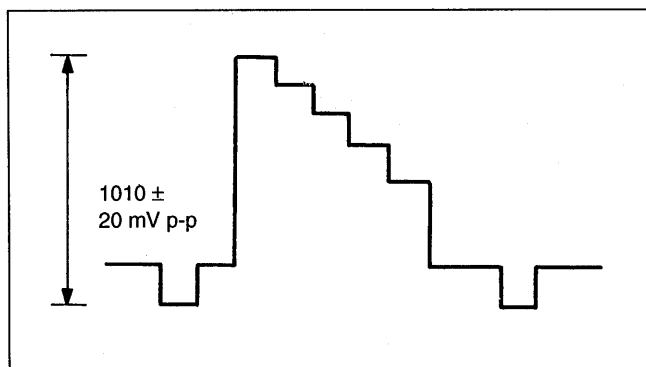
7-3-1. Video Output (Luminance Signal) Adjustment

Measure- ment Point	Adjustment Point	Mode	Test Disc
TP3201 S Connector	VR3021	Color Bar Play	DVDT-S01
Measurement Equipment		Adjustment Value	
Oscilloscope		1010 ± 20 mV p-p	

Purpose: For compatibility of video output signal.

1. Connect the monitor TV to the video output connector, and terminate at 75 Ohms Load.
2. Play back Title 12 (Color Bar part) of the DVD test disc.
3. Adjust VR3021 so that the luminance signal output (including the sync chip) is as shown below.

Adjustment Value = 1010 ± 20 mVp-p



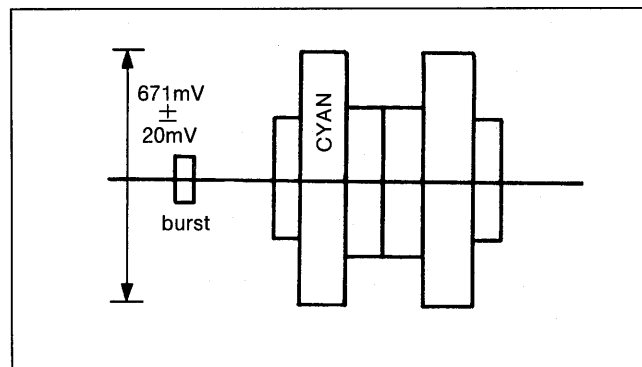
7-3-2. Video Output (Chrominance Signal) Adjustment

Measure- ment Point	Adjustment Point	Mode	Test Disc
TP3202 S Connector	VR3022	Color Bar Play	DVDT-S01
Measurement Equipment		Adjustment Value	
Oscilloscope		671 ± 20 mV p-p	

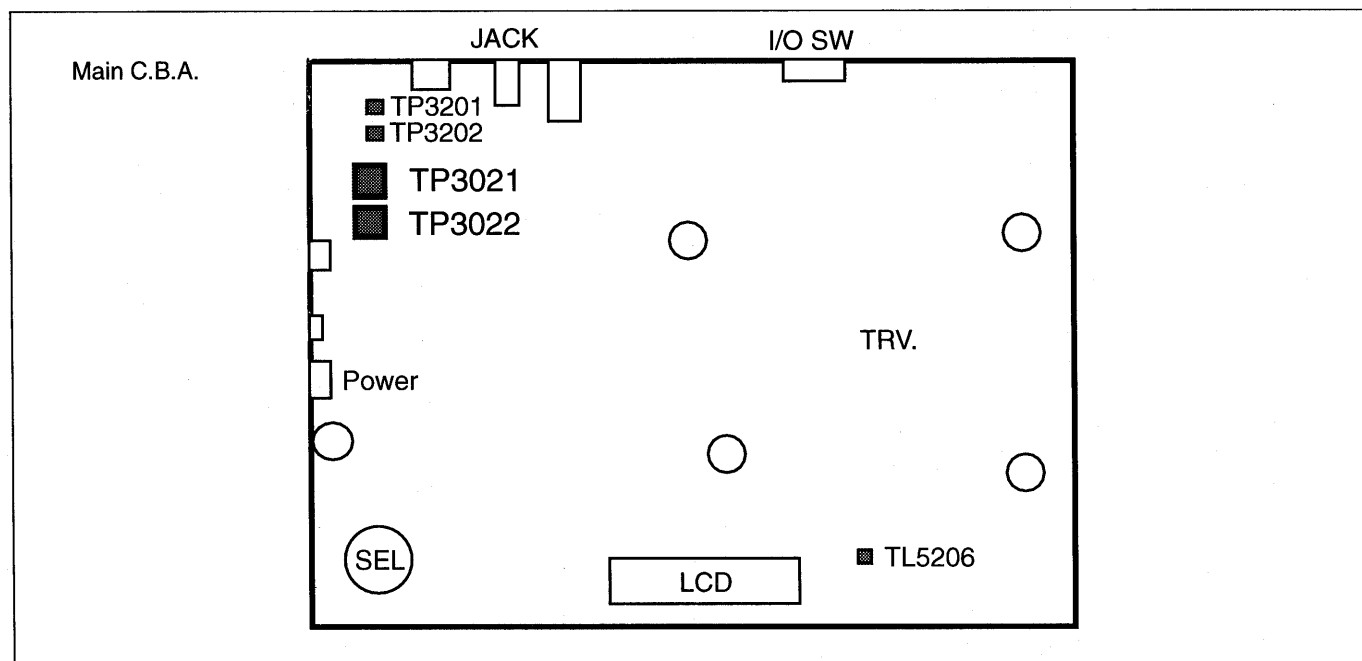
Purpose: For compatibility of video output signal.

1. Connect the monitor TV to the video output connector, and terminate at 75 Ohms Load.
2. Play back Title 12 (Color Bar part) of the DVD test disc.
3. Adjust VR3022 so that the luminance signal output (including the Cyan part) is as shown below.

Adjustment Value = 671 ± 20 mVp-p



Location of Test Points & Controls



SECTION 3 BLOCK DIAGRAM/SCHEMATIC DIAGRAM/ CIRCUIT BOARD DIAGRAM

3-1. ABBREVIATIONS

INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
A	A0~UP	ADDRESS	E	DSC	DIGITAL SERVO CONTROLLER
	ACLK	AUDIO CLOCK		DSLIF	DATA SLICE LOOP FILTER
	AD0~UP	ADDRESS BUS		DVD	DIGITAL VIDEO DISC
	ADATA	AUDIO PES PACKET DATA		EC	ERROR TORQUE CONTROL
	ALE	ADDRESS LATCH ENABLE		ECR	ERROR TORQUE CONTROL REFERENCE
	AMUTE	AUDIO MUTE		ENCSEL	ENCODER SELECT
	AREQ	AUDIO PES PACKET REQUEST		ETMCLK	EXTERNAL M CLOCK (81MHz/40.5MHz)
	ARF	AUDIO RF		ETSCLK	EXTERNAL S CLOCK (54MHz)
	ASI	SERVO AMP INVERTED INPUT	F	FBAL	FOCUS BALANCE
	ASO	SERVO AMP OUTPUT		FCLK	FRAME CLOCK
	ASYN	AUDIO WORD DISTINCTION SYNC		FE	FOCUS ERROR
B	BCK	BIT CLOCK (PCM)		FFI	FOCUS ERROR AMP INVERTED INPUT
	BCKIN	BIT CLOCK INPUT		FEO	FOCUS ERROR AMP OUTPUT
	BDO	BLACK DROP OUT		FG	FREQUENCY GENERATOR
	BLKCK	SUB CODE BLOCK CLOCK		FSC	FREQUENCY SUB CARRIER
	BOTTOM	CAP. FOR BOTTOM HOLD		FSCK	FS (384 OVER SAMPLING) CLOCK
	BYP	BYPATH	G	GND	COMMON GROUNDING (EARTH)
	BYTCK	BYTE CLOCK		HA0~UP	HOST ADDRESS
C	CAV	CONSTANT AUGULAS VELOCITY		HD0~UP	HOST DATA
	CBDO	CAP. BLACK DROP OUT		HINT	HOST INTERRUPT
	CD	COMPACT DISC		HRXW	HOST READ/WRITE
	CDSC	CD SERIAL DATA CLOCK	I	IECOUT	IEC958 FORMAT DATA OUTPUT
	CDSRDATA	CD SERIAL DATA		IPFLAG	INTERPORATION FLAG
	CDRF	CD RF (EFM) SIGNAL		IREF	I (CURRENT) REFERENCE
	CDV	COMPACT DISC-VIDEO		ISEL	INTERFACE MODE SELECT
	CHNDATA	CHANNEL DATA	L	LDON	LASER DIODE CONTROL
	CKSL	SYSTEM CLOCK SELECT		LPC	LASER POWER CONTROL
	CLV	CONSTANT LINEAR VELOCITY		LRCK	L CH/R CH DISTINCTION CLOCK
	COFTR	CAP. OFF TRACK	M	MA0~UP	MEMORY ADDRESS
	CPA	CPU ADDRESS		MCK	MEMORY CLOCK
	CPCS	CPU CHIP SELECT		MCKI	MEMORY CLOCK INPUT
	CPDT	CPU DATA		MCLK	MEMORY SERIAL COMMAND CLOCK
	CPUADR	CPU ADDRESS LATCH		MDATA	MEMORY SERIAL COMMAND DATA
	CPUADT	CPU ADDRESS DATA BUS		MDQ0~UP	MEMORY DATA INPUT/OUTPUT
	CPUIRQ	CPU INTERRUPT REQUEST		MDQM	MEMORY DATA I/O MASK
	CPRD	CPU READ ENABLE		MLD	MEMORY SERIAL COMMAND LOAD
	CPWR	CPU WRITE ENABLE		MPEG	MOTION PICTURE IMAGE CODING EXPERT GROUP
	CS	CHIP SELECT	O	ODC	OPTICAL DISC CONTROLLER
	CSYNCIN	COMPOSITE SYNC IN		OFTR	OFF TRACKING
	CSYNOUT	COMPOSITE SYNC OUT		OSCI	OSCILLATOR INPUT
D	DACCK	D/A CONVERTER CLOCK		OSCO	OSCILLATOR OUTPUT
	DEEMP	DEEMPHASIS BIT ON/OFF		OSD	ON SCREEN DISPLAY
	DEMPH	DEEMPHASIS SWITCHING	P	P1~UP	PORT
	DIG0~UP	FL DIGIT OUTPUT		PCD	CD TRACKING PHASE DIFFERENCE
	DIN	DATA INPUT		PCK	PLL CLOCK
	DMSRCK	DM SERIAL DATA READ CLOCK			
	DMUTE	DIGITAL MUTE CONTROL			
	DO	DROP OUT			
	DOUT0~UP	DATA OUTPUT			
	DRF	DATA SLICE RF (BIAS)			
	DRPOUT	DROP OUT SIGNAL			
	DREQ	DATA REQUEST			
	DRESP	DATA RESPONSE			

INITIAL/LOGO		ABBREVIATIONS	INITIAL/LOGO		ABBREVIATIONS
	PDVD PEAK PLLCLK PLLOK PWMCTL PWMDA PWMOA, B	DVD TRACKING PHASE DIFFERENCE CAP. FOR PEAK HOLD CHANNEL PLL CLOCK PLL LOCK PWM OUTPUT CONTROL PULSE WAVE MOTOR DRIVE A PULSE WAVE MOTOR OUT A, B		TRON TRSON	TRACKING ON TRAVERSE SERVO ON
R	RE RFENV RFO RS RSEL RST RSV	READ ENABLE RF ENVELOPE RF PHASE DIFFERENCE OUTPUT (CD-ROM) REGISTER SELECT RF POLARITY SELECT RESET RESERVE	V	VBLANK VCC VCDCONT VDD VFB VREF VSS	V BLANKING COLLECTOR POWER SUPPLY VOLTAGE VIDEO CD CONTROL (TRACKING BALANCE) DRAIN POWER SUPPLY VOLTAGE VIDEO FEED BACK VOLTAGE REFERENCE SOURCE POWER SUPPLY VOLTAGE
			W	WAIT WDCK WEH WSR	BUS CYCLE WAIT WORD CLOCK WRITE ENABLE HIGH WORD SELECT RECEIVER
S	SBI0, 1 SBO0 SBT0, 1 SCK SCKR SCL SCLK SDA SEG0~UP SELCLK SEN SIN1, 2 SOUT1, 2 SPDI SPDO SPEN SPRCLK SPWCLK SQCK SQCX SRDATA SRMADR SRMDT0~7 SS STAT STCLK STD0~UP STENABLE STSEL STVALID SUBC SBCK SUBQ SYSCLK	SERIAL DATA INPUT SERIAL DATA OUTPUT SERIAL CLOCK SERIAL DATA CLOCK AUDIO SERIAL CLOCK RECEIVER SERIAL CLOCK SERIAL CLOCK SERIAL DATA FL SEGMENT OUTPUT SELECT CLOCK SERIAL PORT ENABLE SERIAL DATA IN SERIAL DATA OUT SERIAL PORT DATA INPUT SERIAL PORT DATA OUTPUT SERIAL PORT R/W ENABLE SERIAL PORT READ CLOCK SERIAL PORT WRITE CLOCK SUB CODE Q CLOCK SUB CODE Q DATA READ CLOCK SERIAL DATA SRAM ADDRESS BUS SRAM DATA BUS 0~7 START/STOP STATUS STREAM DATA CLOCK STREAM DATA STREAM DATA INPUT ENABLE STREAM DATA POLARITY SELECT STREAM DATA VALIDITY SUB CODE SERIAL SUB CODE CLOCK SUB CODE Q DATA SYSTEM CLOCK	X	X XALE XAREQ XCDROM XCS XCSYNC XDS XHSYNCO XHINT XI XINT XMW XO XRE XSRMCE XSRMOE XSRMWE XVCS XVDS XVSYNCO	X'TAL X ADDRESS LATCH ENABLE X AUDIO DATA REQUEST X CD ROM CHIP SELECT X CHIP SELECT X COMPOSITE SYNC X DATA STROBE X HORIZONTAL SYNC OUTPUT XH INTERRUPT REQUEST X'TAL OSCILLATOR INPUT X INTERRUPT X MEMORY WRITE ENABLE X'TAL OSCILLATOR OUTPUT X READ ENABLE X SRAM CHIP ENABLE X SRAM OUTPUT ENABLE X SRAM WRITE ENABLE X V-DEC CHIP SELECT X V-DEC CONTROL BUS STROBE X VERTICAL SYNC OUTPUT
T	TE TIBAL TID TIN TIP TIS TPSN TPSO TPSP TRCRS	TRACKING ERROR BALANCE CONTROL BALANCE OUTPUT 1 BALANCE INPUT BALANCE INPUT BALANCE OUTPUT 2 OP AMP INPUT OP AMP OUTPUT OP AMP INVERTED INPUT TRACK CROSS SIGNAL			

3-2. VOLTAGE CHART

The following voltage value is measured in STOP mode without the Disc, and in PLAY mode with the DVD Disc.

Connect the minus (GND) side probe of the voltage measurement equipment to the J1001-3 Pin (+9V External Power Connector) on the Main C.B.A.

■ LCD - DRIVE C.B.A.

TRANSISTOR

※.STOP MODE

	Q8002	Q8004	Q8005		Q8101	Q8201	Q8401		Q8403		Q8406		Q8407		Q8901
B	2.1	△1.5	① 3.8	④ 4.4	3.0	0.4	① 0.5	④ 7.3	① △9.0	④ △0.1	① 0.5	④ 1.6	① △9.0	④ △7.8	2.3
C	5.1	6.5	② 4.4	⑤ 1.5	5.1	3.0	② 1.1	⑤ △14.9	② △8.4	⑤ △14.9	② 1.1	⑤ 1.1	② △8.4	⑤ △8.4	0.1
E	1.4	0.1	③ 0.1	⑥ 5.1	2.4	0.1	③ 1.6	—	③ △7.8	—	③ △15.1	⑥ 7.5	③ △15.1	⑥ 7.5	0.1

	QR8002	QR8202	QR8501
B	1.6	0.4	2.3
C	3.7	3.0	0.1
E	0.1	0.1	0.1

IC

※.STOP MODE

IC8001

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
2.5	2.4	2.6	0.5	2.8	3.5	3.5	1.0	2.0	2.0	3.0	3.2	4.4	2.7	3.2	
⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
0.1	0.1	2.6	3.0	2.6	2.9	7.5	2.6	2.9	2.0	2.5	2.2	2.1	2.2	2.3	1.6
㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽
1.6	5.0	0.4	2.3	2.2	3.5	0.1	2.1	2.1	2.1	5.1	1.3	2.7	2.7	3.3	2.7

IC8002

①	②	③	④	⑤	⑥	⑦	⑧
2.6	0.1	0.1	0.1	3.7	4.7	0.6	7.5

IC8003

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
2.6	2.6	2.6	2.6	2.6	0.1	0.1	0.1	6.5	6.5	6.5	2.6	2.6	2.6	2.6	7.5

IC8201

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
0.4	2.9	0.1	2.3	3.1	2.9	3.1	0.4	3.1	0.1	0.1	0.1	3.1	1.6	0.1	0.6
⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
0.3	0.3	0.3	0.1	0.5	1.6	0.1	1.5	0.1	1.5	0.1	1.5	0.1	0.1	0.1	0.1
㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽
1.6	0.1	3.2	1.6	1.5	0.1	3.2	3.1	0.1	0.1	3.2	3.2	3.2	0.1	3.2	0.1

IC8202

①	②	③	④	⑤	⑥	⑦	⑧
0.4	0.2	0.2	0.1	3.1	3.0	2.9	3.2

IC8203

①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
3.2	2.3	0.6	3.2	0.1	3.2	0.1	3.2	0.1	3.1	0.9	0.1	2.8	3.2

IC8204

①	②	③	④	⑤	⑥	⑦	⑧
1.6	2.3	0.5	0.1	2.8	0.9	0.9	3.2

IC8401

①	②	③	④	⑤	⑥	⑦	⑧
5.8	5.8	5.8	0.1	5.8	5.8	5.8	11.5

IC8402

①	②	③	④	⑤	⑥	⑦	⑧
5.8	0.1	0.1	0.1	11.5	5.8	5.8	11.5

IC8403

①	②	③	④	⑤	⑥	⑦	⑧
5.8	5.8	5.8	0.1	5.8	5.8	5.8	11.5

IC8404

①	②	③	④	⑤	⑥	⑦	⑧
0.1	5.0	0.1	0.1	5.1	1.5	5.1	5.1

■ MAIN C.B.A.

TRANSISTOR

	Q1001		Q1005		Q1007		Q1008		Q1009		Q1010	Q1011	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	STOP	PLAY
B	8.4	8.4	8.4	8.4	8.8	8.8	① 8.6	④ 4.9	① 8.6	④ 4.9	① 8.6	④ 4.9	8.8
C	9.1	9.1	9.1	9.1	0.1	0.1	② 9.2	⑤ 4.9	② 9.2	⑤ 4.9	② 9.2	⑤ 4.9	4.2
E	9.1	9.1	9.1	9.1	9.1	9.1	③ 0.1	—	③ 0.1	—	③ 0	—	4.8

	Q1012		Q2501		Q3001		Q3002		Q3201		Q3202		Q3203		Q3204	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
B	2.6	2.6	① 9.1	④ 0.1	0.4	0.6	0.9	0.9	2.3	2.3	0.6	0.6	0.7	0.7	1.7	1.7
C	3.2	3.2	② 9.1	⑤ 0.1	0.1	0.1	0.1	0.1	0.6	0.6	2.7	2.7	1.7	1.7	0.7	0.7
E	3.2	3.2	③ 0.1	—	1.0	1.3	1.5	1.5	2.9	2.9	0.1	0.1	0.1	0.1	2.4	2.4

	Q3205		Q4001		Q4003	Q4004		Q5201		Q5202		QR1002		QR1003		QR1004	
	STOP	PLAY	STOP	PLAY	STOP	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY
B	0.6	0.6	0.7	△0.1	0.8	0.7	△0.1	4.4	4.4	4.4	3.2	4.9	4.9	9.0	9.0	0.1	0.1
C	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.1	1.1	1.6	2.3	0.1	0.1	0.1	0.1	9.0	9.0
E	1.3	1.3	0.1	0.1	0.1	0.1	0.1	4.8	4.8	4.8	3.8	0.1	0.1	9.1	9.1	0.1	0.1

	QR1006		QR1013		QR4001		QR4002		QR4003		QR4004		QR4005	QR4006		QR6311	
	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	PLAY	STOP	STOP	PLAY	STOP	PLAY
B	4.9	4.9	4.8	4.8	0.1	3.9	0.1	0.1	0.1	3.5	3.5	3.5	4.9	0.1	0.1	0.1	0.1
C	0.1	0.1	0.1	0.1	2.2	0.1	2.1	0	3.5	0.1	0.1	0.1	0.1	0.1	3.9	4.6	4.6
E	0.1	0.1	0.1	0.1	0.1	0.1	2.2	0.1	0.1	0.1	0.1	0.1	4.8	0.1	0.1	0.1	0.1

1 C

IC1001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	0.9	1.7	1.2	1.2	4.8	1.2	1.2	1.7	1.6	0.3	8.8	9.0	5.7	9.1	5.5	9.0
PLAY	0.9	1.7	1.2	1.2	4.8	1.2	1.2	1.7	1.6	0.3	8.8	9.0	5.7	9.1	5.5	9.0
	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
STOP	8.8	0.3	0.4	8.6	8.7	4.0	9.1	4.1	8.6	8.6	0.4	0.8	1.6	1.2	1.2	1.2
PLAY	8.8	0.3	0.4	8.6	8.7	4.0	9.1	4.1	9.6	8.6	0.4	0.8	1.6	1.2	1.2	1.2
	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽
STOP	1.2	1.6	0.8	0.1	9.1	2.4	0.1	0.1	2.4	0.1	1.0	1.0	1.6	1.0	1.4	9.1
PLAY	1.2	1.6	0.8	1.7	9.1	2.4	0.1	0.1	1.5	0.1	1.0	1.0	1.6	1.0	1.4	9.1

IC1002

	①	②	③	④	⑤	⑥
STOP	9.1	0.1	1.3	5.0	0.1	9.1
PLAY	9.1	0.1	1.3	5.0	0.1	9.1

IC1003

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	5.0	2.4	2.8	0.1	3.1	2.4	5.0	5.0
PLAY	5.0	2.4	2.8	0.1	3.1	2.4	5.0	5.0

IC2001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕
STOP	2.4	0.1	2.4	0.1	4.8	4.8	4.8	4.8	0.1	0.1	4.8	0.1	0.1	0.1	0.1	4.8	4.6	0.1	4.8	4.8	4.9	4.8	4.6	0.1	0.1
PLAY	2.5	0.1	2.4	4.8	4.8	4.7	4.8	4.8	0.1	0.1	0.1	4.8	4.8	0.1	0.1	4.8	4.6	0.1	4.8	4.8	4.9	4.8	4.7	0.1	0.1
	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿
STOP	0.1	2.3	0.1	4.8	0.1	0.1	4.8	0.1	2.4	0.1	0.1	0.1	0.1	4.8	2.3	2.3	0.1	1.4	2.4	2.7	2.4	3.2	0.1	0.1	0.1
PLAY	0.1	1.2	0.1	4.8	4.8	0.1	4.8	0.1	2.5	0.1	0.1	3.2	0.1	0.1	1.2	1.2	0.1	0.4	2.4	2.9	3.0	3.2	0.4	0.6	0.1
	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔
STOP	4.8	2.4	2.4	2.4	0.1	0.1	1.2	2.2	3.2	4.8	2.2	1.6	2.2	3.2	1.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PLAY	4.8	2.4	2.4	2.2	0.1	0.1	1.2	2.2	3.2	4.8	2.2	1.9	2.2	3.2	1.2	2.2	0.5	1.8	2.3	2.2	2.2	2.1	2.2	2.2	2.6
	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾
STOP	4.8	0.1	2.2	2.1	2.7	2.3	2.2	2.2	2.2	2.2	2.1	0.1	2.1	4.8	0.8	2.2	0.9	0.8	4.8	2.4	4.7	0.1	2.4	2.4	100
PLAY	4.8	0.1	2.2	2.2	2.3	2.6	2.2	2.3	2.2	2.0	2.1	0.1	2.1	2.4	0.8	0.8	3.6	0.8	4.8	2.2	4.8	4.8	1.7	3.2	2.5

IC2501

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
STOP	2.4	2.4	2.5	2.3	2.4	2.5	2.1	0.1	4.8	2.4	2.4	0.1	4.9	0.1
PLAY	2.4	2.4	2.4	2.4	2.4	2.4	0.7	4.8	2.4	2.4	2.3	0.7	4.9	0.1
	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘
STOP	0.1	0.1	9.1	0.1	9.1	0.1	0.1	0	0	0.1	0.1	0.1	0.1	0.1
PLAY	1.6	0.1	7.8	2.0	9.1	2.6	0.8	2.6	0	0	1.5	1.4	0	0.1

IC2502

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	0.1	6.9	0.1	0.1	4.9	0.1	0.1	0.1	4.9	0.1	0.1	0.1	4.9	2.4	2.4	4.9
PLAY	0.1	9.2	0.1	0.1	4.9	0.1	0.1	0.1	4.9	0.3	0.1	0.2	4.9	2.4	2.4	4.9
	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
STOP	4.9	2.4	2.4	4.9	0.1	0	0.1	4.9	0.1	0.1	0.1	4.9	0.1	0.1	7.2	2.4
PLAY	4.9	3.2	1.7	4.9	0.1	0	1.5	4.9	0.1	0.1	0.1	4.9	0.1	0.1	6.9	2.4

IC3001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
STOP	0.1	3.2	0	3.2	3.2	0	0.1	3.2	3.2	3.2	3.2	3.2	0.1	3.2	3.2	3.2	3.2	0.1	3.2	3.2	3.2	3.2	3.2	0.1	3.0	2.9	3.2	2.9	3.0	0.1	2.9	
PLAY	0.1	2.9	2.8	3.2	2.8	2.9	0.1	2.8	2.8	3.2	2.8	2.8	0.1	2.8	2.8	3.2	2.8	2.8	0.1	2.8	2.8	3.2	2.8	2.9	0.1	2.4	2.2	3.2	2.3	2.3	0.1	2.2
	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮
STOP	2.9	3.2	3.0	3.0	0.1	2.9	2.9	3.2	3.0	3.0	0.1	2.9	2.9	3.2	3.0	3.0	0.1	3.2	2.9	3.2	0.1	3.2	3.2	2.9	3.2	3.2	3.1	0.1	3.2	3.1	3.2	1.7
PLAY	2.0	3.2	2.3	2.1	0.1	2.0	2.2	3.2	2.1	2.3	0.1	2.1	2.2	3.2	2.2	2.5	0.1	3.2	2.1	3.2	0.1	3.1	3.2	2.1	3.2	3.0	3.1	0.1	3.2	2.9	3.2	1.7
	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛
STOP	0.1	1.7	3.2	0.1	3.2	1.5	3.2	0.1	1.5	3.2	0.1	2.1	0.1	0.1	0.1	3.2	0.6	0.1	0.1	2.0	0.1	3.2	2.1	0.1	0.1	0.7	2.1	3.2	4.2	3.2	0.1	1.5
PLAY	0.1	1.7	3.2	0.1	3.2	1.5	3.2	0.1	1.5	3.2	0.1	1.6	0.1	0.1	0.1	3.2	1.4	0.1	0.1	1.6	0.1	3.2	1.8	0.2	0.1	1.6	1.6	3.2	4.2	3.2	0.1	1.5
	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
STOP	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.2	0.1	0.1	0.1	0.1	4.8	0.1	3.2	3.2	0.1	0.1	0.1	0.1	0.1	1.8	1.7	1.7	1.7	2.2	2.2	4.6	0.1	3.2	3.2	3.2
PLAY	0.1	0.1	0.1	0.1	0.1	0.1	0.1	3.2	0.1	0.1	0.1	0.1	4.8	0.4	0.4	2.4	0.4	3.2	1.9	2.7	1.7	1.7	1.7	2.2	2.2	4.6	0.1	3.2	3.2	3.2	3.2	
	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
STOP	3.2	3.2	0.1	4.8	4.5	4.8	3.2	2.4	0.1	3.8	3.6	3.6	3.4	3.3	4.1	4.1	4.2	3.2	4.1	4.3	4.2	4.3	4.3	4.1	4.1	4.2	4.2	0.1	4.3	4.2	4.0	4.4
PLAY	3.2	1.8	0.1	4.8	4.1	4.8	3.2	2.4	0.1	2.9	2.6	2.8	2.5	2.3	3.5	3.5	3.8	3.2	3.6	3.9	3.7	3.8	3.9	3.4	3.6	3.8	3.7	0.1	3.8	3.8	4.0	4.4
	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
STOP	0.2	0.1	0.2	0.2	1.6	0.2	0.2	1.6	3.2	1.7	0.1	3.2	3.0	1.6	0	0.1	1.7	3.2	1.6	0.1	1.6	3.2	0.1	0.1	0.1	1.6	0.1	0.5	0.1	0.1	3.2	3.3
PLAY	0.8	0.8	1.2	1.0	1.6	0.8	0.9	1.6	3.2	1.6	0.1	3.2	3.0	0.1	0	0.1	1.7	3.2	1.6	0.1	1.6	3.2	0.1	1.6	1.2	1.6	0.1	0.5	0.1	0.1	3.2	3.3
	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬
STOP	1.7	1.7	2.7	2.0	3.3	1.6	1.6	2.3	0.9	3.3	1.5	1.5	2.1	0.4	0.1	0.1																
PLAY	1.7	1.7	2.7	2.0	3.3	1.6	1.6	2.3	0.9	3.3	1.5	1.5	2.1	0.6	0.1	0.1																

IC3041

	①	②	③	④	⑤	⑥
STOP	4.7	0.1	1.3	3.3	0.1	4.7
PLAY	4.7	0.1	1.3	3.3	0.1	4.7

IC3045

	①	②	③	④	⑤
STOP	1.6	0.1	0.1	0.1	0.1
PLAY	—	—	—	—	—

IC3051

[illegible]

IC3201

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	0.1	2.1	0.1	0.1	0.1	0.1	2.0	0.1	2.3	0.1	1.5	0.6	4.7	1.4	1.4	4.7
PLAY	0.1	2.1	0.1	0.1	0.1	0.1	2.0	0.1	2.3	0.1	1.5	2.1	4.7	1.8	1.9	4.7

IC4002

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	3.9	3.9	3.9	0.1	3.9	3.9	3.9	8.9
PLAY	3.9	3.9	3.9	0.1	3.9	3.9	3.9	8.9

IC4003

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	3.8	3.9	3.9	3.8	3.8	0.1	0.1	0.1	0.6	0.6	0.1	0.1	0.1	0.1	3.8	8.9
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

IC4006

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	3.9	3.9	3.9	0.1	3.9	3.9	3.9	8.9
PLAY	3.9	3.9	3.9	0.1	3.9	3.9	3.9	8.9

IC4005

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	3.9	3.9	3.9	3.9	3.9	0.1	0.1	0.1	0.6	0.6	0.1	0.1	0.1	0.1	3.8	8.9
PLAY	3.9	3.9	3.9	3.9	3.9	0.1	0.1	0.1	0.6	0.6	0.1	0.1	0.1	0.1	3.8	8.9

IC4007

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	3.9	3.9	3.9	0.1	3.8	3.8	3.9	9.0
PLAY	—	—	—	—	—	—	—	—

IC4008

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	2.4	2.4	2.4	0.1	0	2.4	2.4	4.8
PLAY	—	—	—	—	—	—	—	—

IC4101

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭
STOP	1.6	0.1	1.6	2.4	1.8	2.8	0.1	5.1	5.0	0.1	2.6	0	2.6	0.1
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘
STOP	5.1	2.6	0	2.6	0.1	5.1	0.1	5.0	0.1	5.0	5.0	4.8	4.9	4.8
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—

IC4102

	①	②	③
STOP	5.1	0.1	8.9
PLAY	5.1	0.1	8.9

IC5201

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕
STOP	0.1	0.1	4.4	0.1	4.4	0.1	2.4	1.8	2.2	2.4	2.2	2.2	2.2	1.2	3.2	4.8	4.8	0.1	4.8	4.9	4.8	4.8	2.2	1.2	2.2
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1
	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿
STOP	2.2	2.0	2.2	2.2	3.9	2.4	2.2	0.1	2.2	2.2	2.3	2.3	2.1	2.2	0.1	3.7	3.7	4.8	1.7	1.5	0.1	1.7	1.6	1.6	1.6
PLAY	2.2	0.8	2.2	2.2	3.9	2.4	2.2	0.1	2.2	2.2	2.3	2.4	2.1	2.2	0.1	3.7	3.7	4.8	1.8	1.5	0.1	1.7	1.7	1.7	1.7
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿
STOP	4.8	0.1	4.4	0.1	4.8	2.1	1.8	4.1	4.1	2.0	0.2	1.2	0.1	2.4	2.2	1.6	2.2	2.7	2.4	0.8	2.2	2.2	2.2	1.1	2.0
PLAY	4.8	0.1	4.4	0.1	4.8	2.1	1.8	1.9	1.9	2.2	1.3	1.2	0.1	—	—	—	—	—	—	—	—	—	—	—	—
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿
STOP	4.8	0.1	3.2	2.2	2.2	2.3	2.3	2.1	2.2	2.2	0.1	2.2	2.2	2.2	4.8	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2	2.2
PLAY	4.8	2.9	3.1	2.2	2.6	2.3	2.3	2.1	2.2	2.2	0.1	0.9	1.9	2.2	4.8	2.2	2.2	1.8	1.8	2.1	2.1	2.1	2.1	2.0	2.0

IC5203

	①	②	③	④	⑤
STOP	4.8	4.8	0.1	4.8	4.8
PLAY	4.8	4.8	0.1	4.8	4.8

IC5204

	①	②	③	④	⑤
STOP	0.1	4.8	0.1	0	0.1
PLAY	0.1	4.8	2.0	0	4.8

IC6002

	①	②	③
STOP	0.1	5.0	5.0
PLAY	—	—	—

IC6001

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕
STOP	3.5	3.5	3.5	3.5	1.5	3.0	4.0	5.0	2.5	2.4	0.1	2.0	2.5	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.2	4.7
PLAY	3.5	3.5	3.5	3.5	2.0	3.0	4.0	5.0	2.5	2.4	0.1	2.2	2.5	0.1	0.2	0.1	0.1	0.1	—	—	—	—	—	—	—
	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿
STOP	3.8	4.2	5.0	5.0	5.0	5.0	5.0	0.1	0.1	0.1	0.1	0.1	4.9	5.0	5.0	5.0	5.0	4.9	5.0	5.0	0.4	0.4	0.4	0.4	0.4
PLAY	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.4	0.4	0.4
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿
STOP	0.2	0.2	0.2	5.0	0.2	0.2	0.2	0.2	5.0	5.0	5.0	4.9	4.9	0.6	4.8	0.3	5.0	5.0	0.1	0.1	0.1	0.1	0.1	0.1	3.4
PLAY	0.2	0.2	0.2	5.0	0.2	0.2	0.2	0.2	5.0	5.0	5.0	4.9	4.9	0.6	4.8	0.3	5.0	5.0	0.2	0.1	0.1	0.1	0.1	0.1	3.5
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿
STOP	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.4	3.5	3.5	3.5	3.5	3.4	3.4	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
PLAY	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5

IC6201

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	㉑	㉒	㉓	㉔	㉕		
STOP	4.8	4.5	0.1	4.8	0.1	4.8	4.8	4.2	0.1	4.8	4.8	0.1	2.6	3.8	3.6	3.6	4.8	2.4	0.1	0.1	4.8	4.8	2.5	2.5	4.8
PLAY	4.8	4.1	4.8	4.8	0.1	4.8	4.8	3.5	0.1	4.8	4.8	0.1	0.9 ~1.3	2.9 ~3.1	2.6 ~2.8	2.6 ~3.0	4.8	2.4	0.1	0.1	4.8	4.8	2.5	2.5	4.8
	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿
STOP	3.4	3.3	3.4	2.6	3.3	3.3	3.1	3.0	4.8	2.9	4.2	4.2	4.0	2.6	2.6	2.6	2.5	0.1	1.4	0.1	0.1	4.8	0.1	4.8	4.8
PLAY	2.3 ~2.6	2.1	2.3 ~2.8	2.8 ~3.0	2.1 ~3.0	2.2	2.3 ~2.7	0.8 ~1.8	4.8	1.7 ~1.9	3.8	3.9	3.2 ~3.5	0.8 ~1.4	1.4 ~1.8	0.8 ~1.1	0.7 ~1.0	0.1	1.4	0.1	1.4	4.8	0.1	4.8	4.8
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	
STOP	4.8	4.8	0.1	4.8	4.8	4.8	0.1	4.8	4.8	4.8	0.1	0.1	4.8	0.1	0.1	4.8	4.3	4.7	3.8	4.9	4.8	4.8	4.8	4.8	4.8
PLAY	4.8	4.8	0.1	4.8	4.8	4.8	0.1	4.8	4.8	4.8	0.1	0.1	4.8	0.2 ~0.9	0.1	4.8	4.2 ~1.4	4.7	3.8 ~4.4	4.9	4.7	4.8	4.8	4.8	4.8
	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	㊿	
STOP	4.8	4.8	3.2	0.1	4.8	4.8	4.8	4.0	4.1	4.2	4.2	4.2	4.3	4.3	4.3	0.1	4.1	4.1	4.2	4.2	4.3	4.3	4.3	4.3	4.3
PLAY	4.8	4.8	1.3 ~2.7	0.1	4.8	4.7	4.8	4.8	3.5	3.0 ~3.5	3.7	3.6	3.8	3.6 ~4.1	3.8	3.9	0.1	3.5	3.7	3.7	3.6	3.5 ~3.7	3.5 ~3.7	3.9	3.9

IC6301

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯
STOP	2.6	4.0	4.2	4.2	2.9	3.0	3.1	3.3	0	0	4.8	4.8	4.8	4.8	0.6	0
PLAY	0.7 ~1.5	3.4	3.9	3.8	1.8	1.6 ~1.9	2.6	1.9 ~2.3	0	0	4.8	4.8	4.8	4.8	0.2	0
	⑰	⑱	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜	㉝	㉞
STOP	2.5	3.3	3.5	3.5	3.3	3.4	3.6	3.6	3.8	4.1	0.1	4.4	4.1	4.1	4.1	4.1
PLAY	0.6 ~1.0	1.7 ~2.0	2.4 ~2.7	2.1 ~2.3	2.3 ~2.6	2.8	2.8 ~2.9	3.0 ~3.2	3.5 ~3.7	4.2	4.2	3.4 ~3.6	3.4 ~3.6	3.4 ~3.6	3.4 ~3.6	3.2 ~3.4
	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿
STOP	4.2	4.2	4.2	4.2	4.8	4.2	4.3	4.2	4.2	4.3	4.3	4.3	4.4	0.1	4.8	2.6
PLAY	3.6 ~3.8	3.0 ~3.8	3.6	3.6 ~3.8	4.8	3.6 ~4.2	3.6 ~3.9	3.5 ~3.7	3.8	3.8	3.9	3.9	3.9	0.1	4.8	1.3 ~1.7

[illegible]

	①	②	③	④	⑤	⑥	⑦	⑧
STOP	1.6	1.6	1.5	0.1	1.6	3.1	3.1	3.1
PLAY	1.6	1.6	1.5	0	1.6	3.1	3.1	3.1

[illegible]

	①	②	③	④	⑤
STOP	0	1.6	0.1	1.5	3.1
PLAY	—	—	—	—	—

	①	②	③	④	⑤
STOP	0	1.6	0.1	1.9	4.8
PLAY	0	1.6	0.1	1.9	4.8

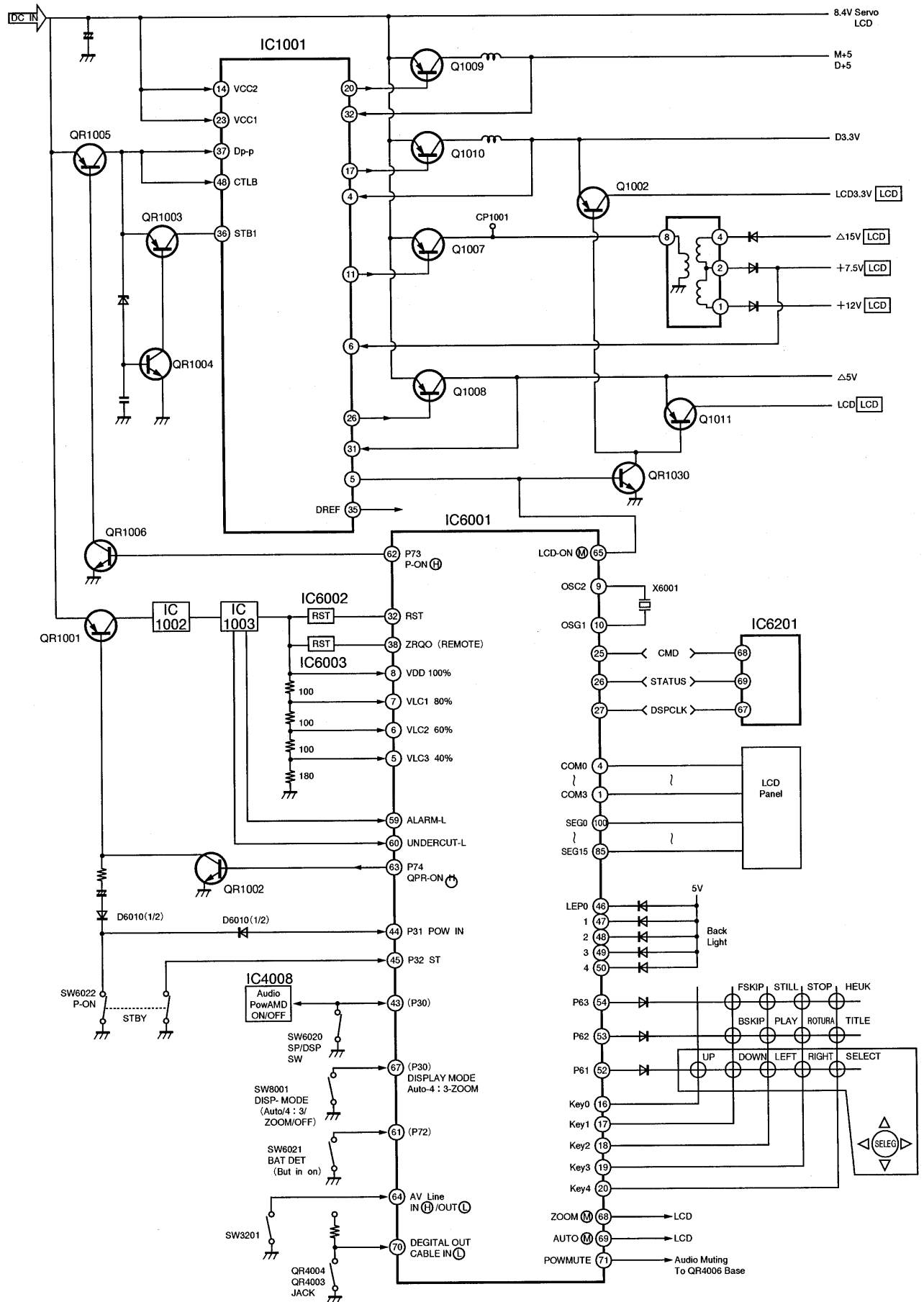
	①	②	③	④	⑤
STOP	0	1.6	0.1	1.6	3.1
PLAY	0	1.6	0.1	1.6	3.1

	①	②	③	④	⑤
STOP	0	1.6	0.1	1.5	3.1
PLAY	—	—	—	—	—

	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩	⑪	⑫	⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜
STOP	0.1	4.8	4.8	4.8	3.2	0.1	3.2	3.2	0.1	0.1	0.1	3.2	3.2	0.1	3.2	0.1	0.1	0.1	0.1	0.1	3.2	3.1	3.1	3.2	3.2	1.0	0.5	3.2	0.5	0.5	1.2	0.5
PLAY	2.3 3.1	4.8	4.7	4.8	2.8	0.1	2.8	0.9 0.5	0.2 0.2	0.7 0.6	0.4 0.9	0.5 0.1	3.2	3.2	0.3 0.1	1.0 0.2	0.3 0.6	0.5 0.5	0.5 0.2	0.2 0.2	0.1	3.0 3.2	1.3 2.8	2.8 3.2	3.2	3.2	1.0 1.0	1.0 1.0	3.2	1.5 1.5	1.0 1.0	1.0 1.0
	㉝	㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸	㊹	㊺	㊻	㊼	㊽	㊾	㊿	㋀	㋁	㋂	㋃	㋄	㋅	㋆	㋇	㋈	㋉	㋊	㋋	㋌	㋍
STOP	0.6	0.6	1.2	0.1	1.9	0.6	0.5	0.7	0.1	0.2	0.6	0.6	3.2	0.1	4.8	0.1	1.7	1.5	0.1	0.1	0.1	0.1	0.1	0.1	3.2	3.2	3.2	0.1	3.2	0.1	0.1	1.6
PLAY	1.5 1.9	1.5 1.1	2.0 2.3	0.1 1.9	1.9 1.6	1.8 1.4	1.8 2.4	1.5 2.2	1.4 2.4	1.4 2.0	3.2	3.2	3.2	0.1	4.8	0.1	1.7	1.5	0.1	0.1	0.1	0.1	0.1	0.1	3.2	3.2	3.2	0.1	3.2	0.1	0.1	1.7
	㋎	㋏	㋐	㋑	㋒	㋓	㋔	㋕	㋖	㋗	㋘	㋙	㋚	㋛	㋜	㋝	㋞	㋟	㋠	㋡	㋢	㋣	㋤	㋥	㋦	㋧	㋨	㋩	㋪	㋫	㋬	㋭
STOP	1.6	1.6	1.6	3.2	0.1	0.1	0.1	0.1	4.8	0.1	0.1	0.1	2.6	0.5	4.0	0.1	3.2	1.7	1.6	1.7	1.6	1.6	1.0	1.3	0.1	3.2	1.5	1.6	4.2	2.9	0.1	0.1
PLAY	1.6	1.7	1.6	3.2	3.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	1.7	2.6 1.6	4.0 3.5	0.1	3.2	1.7	1.6	1.7	1.6	1.7	1.5	1.0	1.3	0.1	3.2	1.5	1.6	3.9	3.8	1.5 1.9
	㋮	㋯	㋰	㋱	㋲	㋳	㋴	㋵	㋶	㋷	㋸	㋹	㋺	㋻	㋼	㋽	㋾	㋿	㌀	㌁	㌂	㌃	㌄	㌅	㌆	㌇	㌈	㌉	㌊	㌋	㌌	㌍
STOP	3.1	3.3	3.3	3.6	3.4	3.3	3.3	3.2	3.6	3.6	3.8	2.6	4.8	4.8	4.4	4.3	4.3	0.1	4.2	4.3	4.1	4.2	4.0	3.2	4.1	4.8	4.8	0.1	0.2	0.1	0.8	4.8
PLAY	2.6	1.9 3.2	1.9 1.8	2.3 2.0	2.7 2.4	2.7 2.4	2.6	3.2	2.8	2.3 3.0	3.0 3.2	1.1	4.8	4.8	4.1	4.0	4.0	0.1	3.6	3.8	3.7	3.8	3.6	3.2	3.4 3.6	4.8	4.8	0.1	0.1	0.1	0.8	4.8
	㌎	㌏	㌐	㌑	㌒	㌓	㌔	㌕	㌖	㌗	㌘	㌙	㌚	㌛	㌜	㌝	㌞	㌟	㌠	㌡	㌢	㌣	㌤	㌥	㌦	㌧	㌨	㌩	㌪	㌫	㌬	㌭
STOP	2.4	4.8	0.1	1.32	0.1	2.5	4.8	4.8	4.8	4.8	4.8	4.8	3.2	2.4	4.8	4.8	0.1	4.8	2.5	0.1	4.8	4.8	2.6	2.4	4.8	0.1	4.8	0.1	4.8	0.1	0.1	4.8
PLAY	0.3	0.8 2.6	0.1	2.4	0.1	2.5	4.8	4.8	4.8	4.8	4.8	4.8	3.2	2.4	4.8	4.8	0.1	4.8	0.													

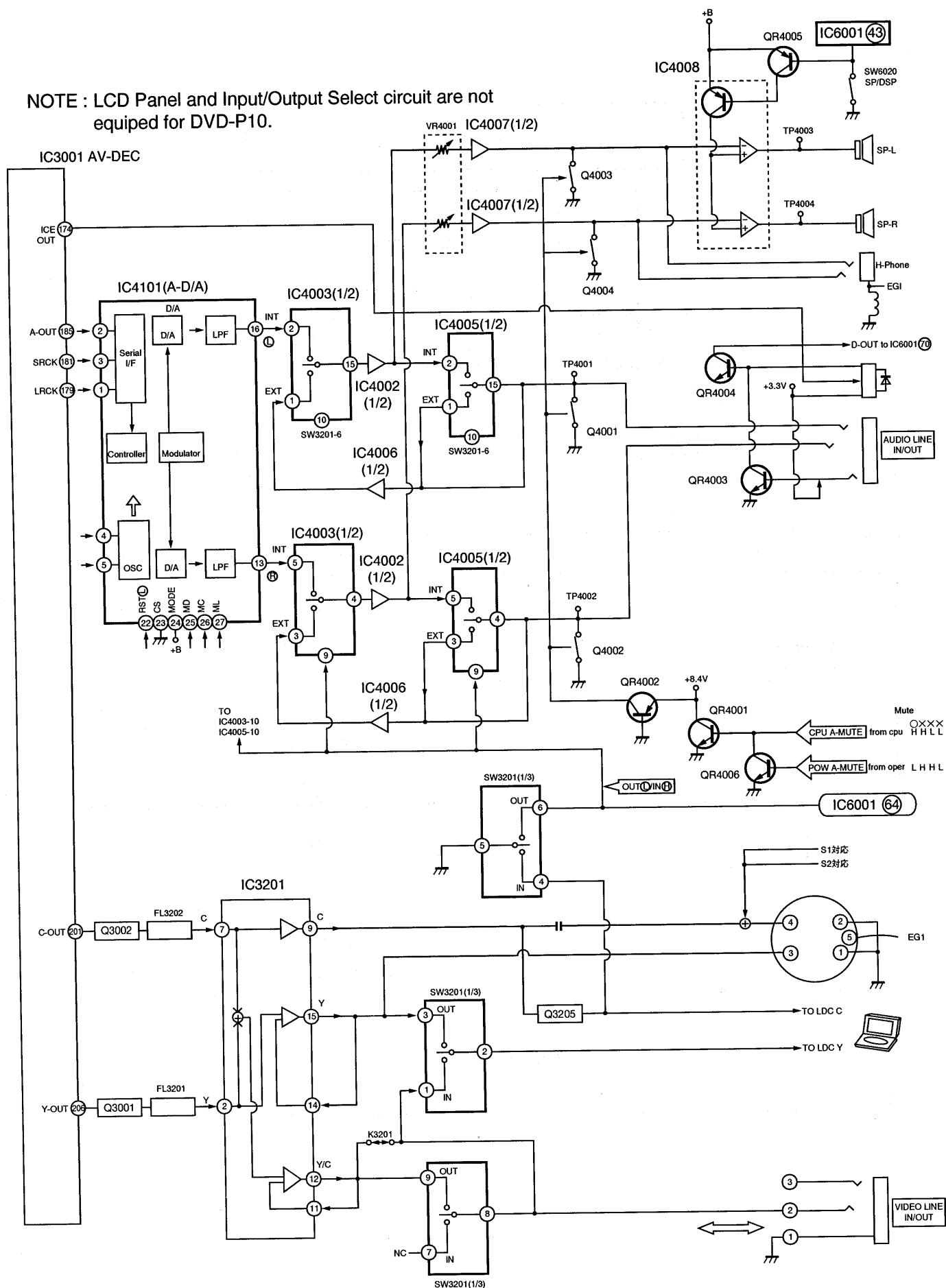
	①	②	③	④	⑤	⑥	⑦	⑧	⑨	⑩				⑬	⑭	⑮	⑯	⑰	⑱	⑲	⑳	㉑	㉒
STOP	3.2	$\frac{0.8}{7}$	$\frac{0.1}{4}$	0.4	$\frac{0.9}{8}$	3.2	0.4	0.1	0.4	0.5				0	0	3.2	3.1	0	3.2	3.1	0.1	3.1	3.2
PLAY	3.2	$\frac{1.6}{7}$	$\frac{1.1}{4}$	$\frac{1.6}{2.0}$	$\frac{1.6}{2.0}$	3.2	$\frac{1.5}{2.0}$	$\frac{1.5}{2.0}$	$\frac{1.6}{2.0}$	$\frac{1.5}{1.8}$				—	—	—	—	—	—	—	—	—	—
	㉓	㉔	㉕	㉖	㉗	㉘	㉙	㉚	㉛	㉜				㉞	㉟	㊱	㊲	㊳	㊴	㊵	㊶	㊷	㊸
STOP	0.1	3.1	0.1	0.1	0.1	0.1	3.2	3.2	3.2	0				$\frac{1.2}{2.0}$	$\frac{0.7}{1.8}$	$\frac{1.3}{2.1}$	0.7	0.1	$\frac{1.1}{2.1}$	0.7	0.7	0.6	0.1
PLAY	—	—	—	—	—	—	—	—	—	—				$\frac{1.6}{1.8}$	$\frac{1.5}{2.0}$	$\frac{1.4}{2.2}$	$\frac{1.4}{1.8}$	0.1	$\frac{1.5}{2.2}$	$\frac{1.5}{2.0}$	$\frac{1.6}{2.1}$	$\frac{1.6}{2.1}$	0.1

3-3. POWER SUPPLY & OPERATION BLOCK DIAGRAM

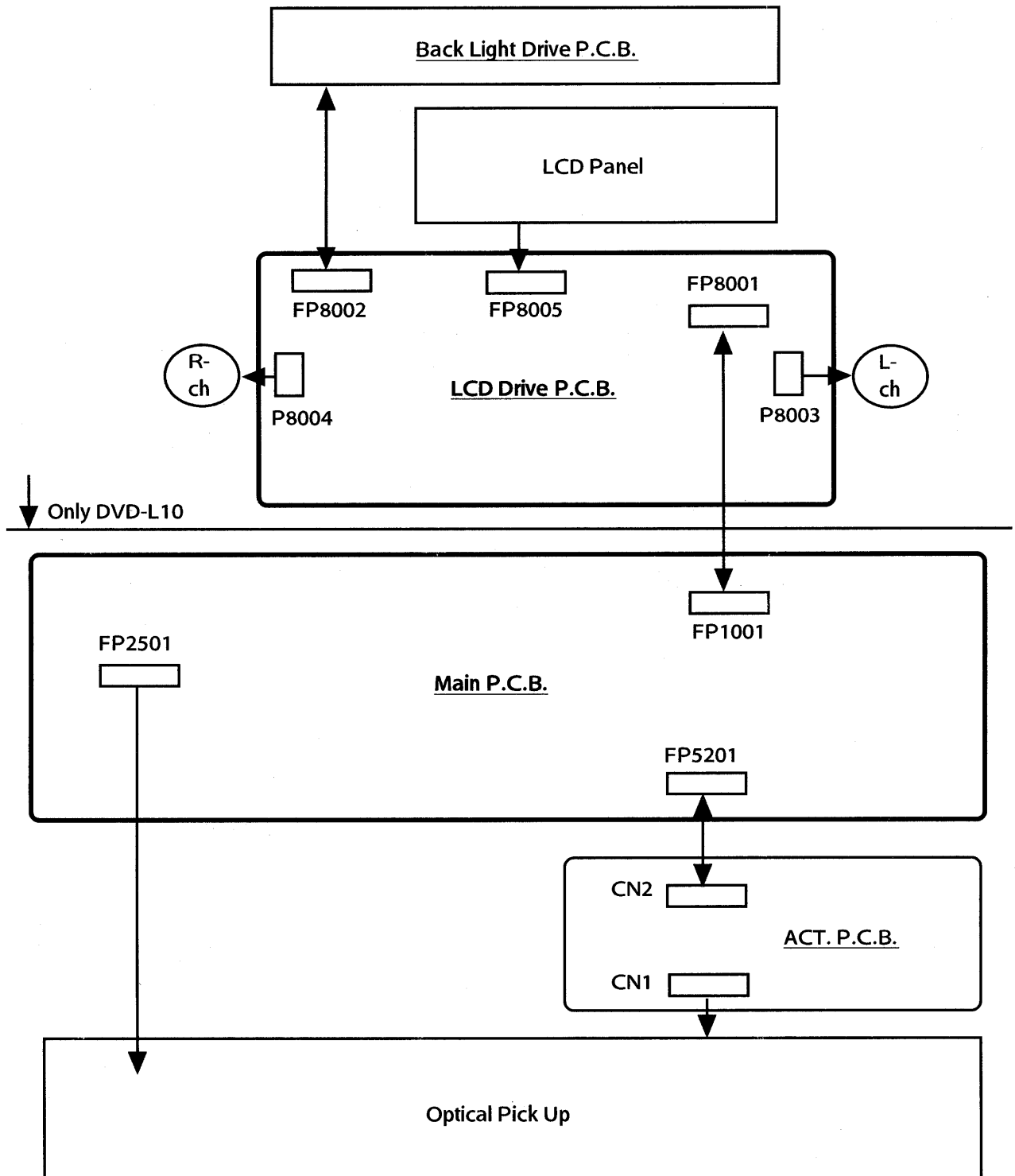


3-4. VIDEO/AUDIO & INPUT/OUTPUT BLOCK DIAGRAM

NOTE : LCD Panel and Input/Output Select circuit are not equipped for DVD-P10.



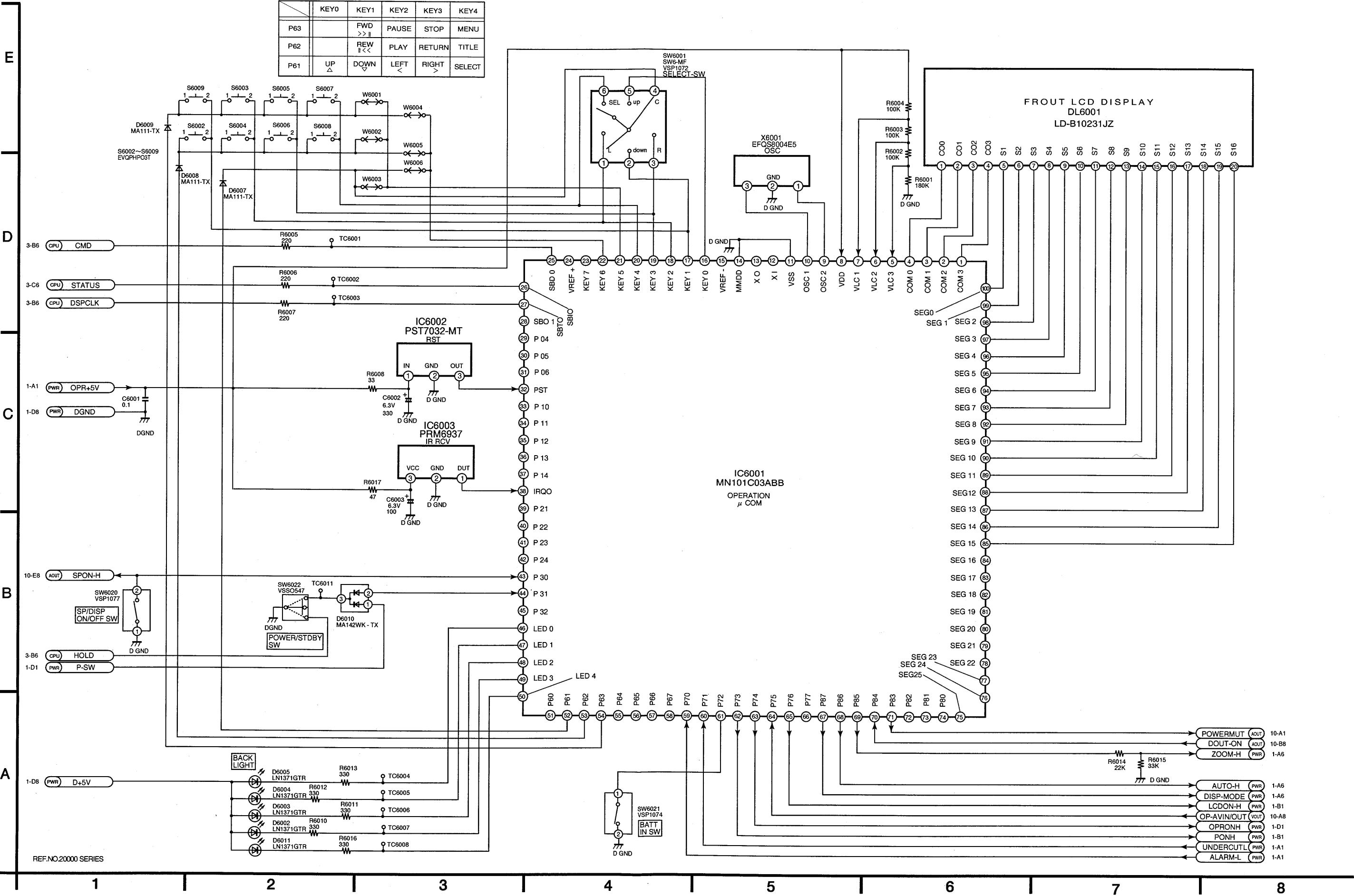
3-5. INTERCONNECTION SCHEMATIC DIAGRAM



E



3-7. OPERATION SECTION (MAIN C.B.A. <2/11>) SCHEMATIC DIAGRAM



[illegible]

A vertical number line with five tick marks. From bottom to top, the tick marks are labeled A, B, C, D, and E. The line is a solid vertical line, and the labels are placed to the left of the line.



The schematic diagram illustrates the internal circuitry of a VCR, focusing on the front end processor (IC5201) and its connections to various control and signal components.

Top Section: Safety and Power Switching

- SAFETY SW:** Includes DVD and CD switches, VCC, GND, and A GND connections.
- IC5203 TC7S08FU:** A hex inverters IC used for signal processing.
- Power Regulation:** Shows a +5V regulator (P5202) and a +12V regulator (P5201) with associated capacitors and inductors.

Central Section: Front End Processor (IC5201) - AN8825NFHQ - V

- Pins and Internal Blocks:** The IC has multiple pins for control (e.g., SLEEP, DVD/CD, GAIN, VCC +5V, PIN(DVD), VCC +12V, HFM, LD + (DVD), LD GND(DVD)) and signal (e.g., LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5). Internal blocks include LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5.
- Control and Signal Processing:** The IC is connected to various control lines (e.g., SLEEP, DVD/CD, GAIN, VCC +5V, PIN(DVD), VCC +12V, HFM, LD + (DVD), LD GND(DVD)) and signal lines (e.g., LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5).

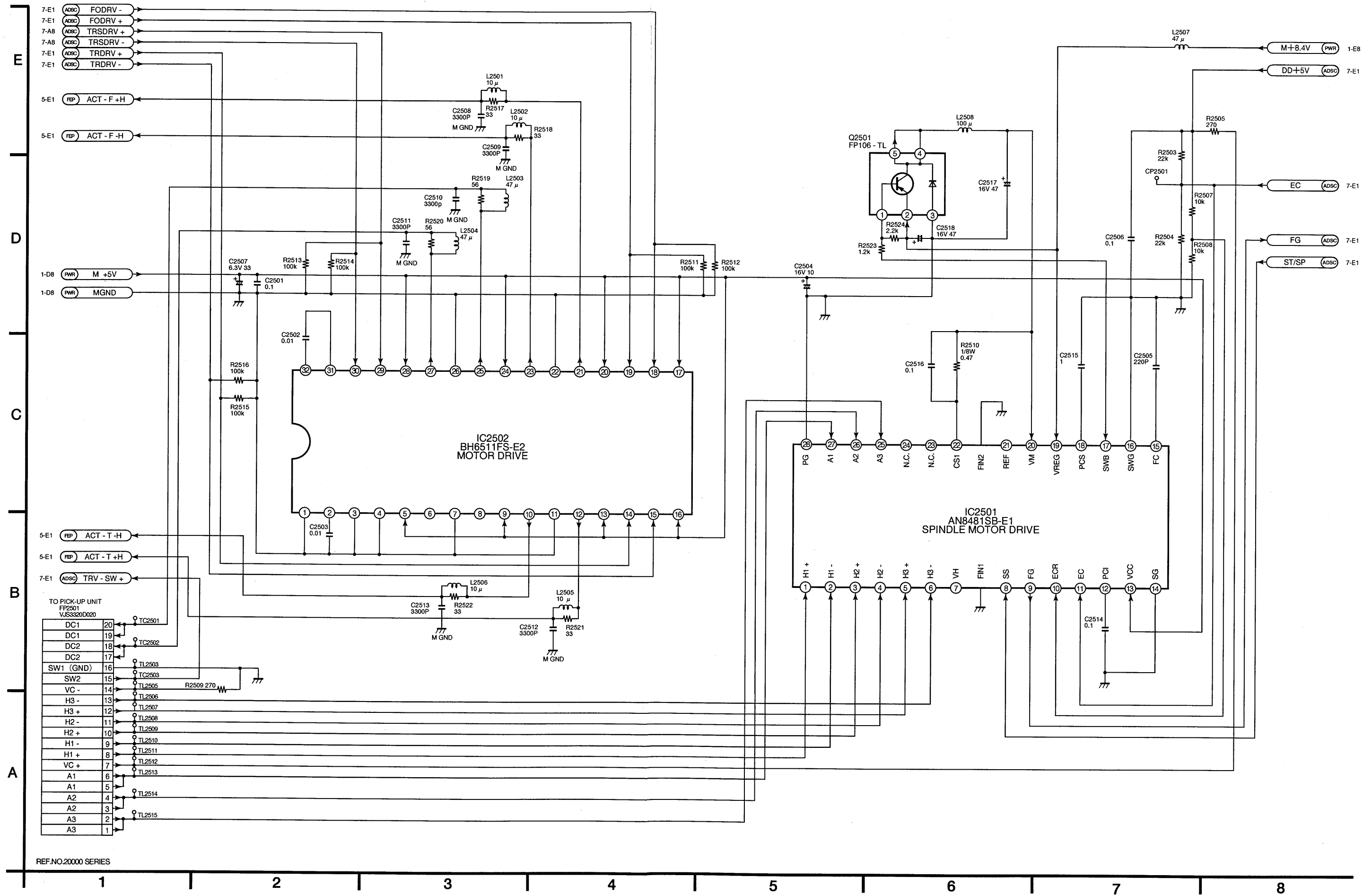
Bottom Section: Control and Signal Processing (IC5204) - RN5RZ20BA - TR

- Pins and Internal Blocks:** The IC has pins for control (e.g., SLEEP, DVD/CD, GAIN, VCC +5V, PIN(DVD), VCC +12V, HFM, LD + (DVD), LD GND(DVD)) and signal (e.g., LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5). Internal blocks include LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5.
- Control and Signal Processing:** The IC is connected to various control lines (e.g., SLEEP, DVD/CD, GAIN, VCC +5V, PIN(DVD), VCC +12V, HFM, LD + (DVD), LD GND(DVD)) and signal lines (e.g., LDON B, LDON A, PCOB, PCOA, PC 1, PC 2, TG BAL, POFLT, PTH, T BAL, TG, F BAL, FE OUT, VREF L, VREF H, HDTYP, XTRON, PUL IN, SEN, SCK, STDI, STANBY, TIIP, RSCL, TIIN, TE OUT, TKCFLT, TKCNT, MMPW, DOF, GND 1, VREF 1, VREF 3, DFLTON, DFLTOP, DSLIP, DSLIN, GND 3, DSL0, VCK 8, VCC 3, DTMONP, DTMONN, GND 5, RD TN, RD TP, RD CKP, RD CKN, VCC 5).

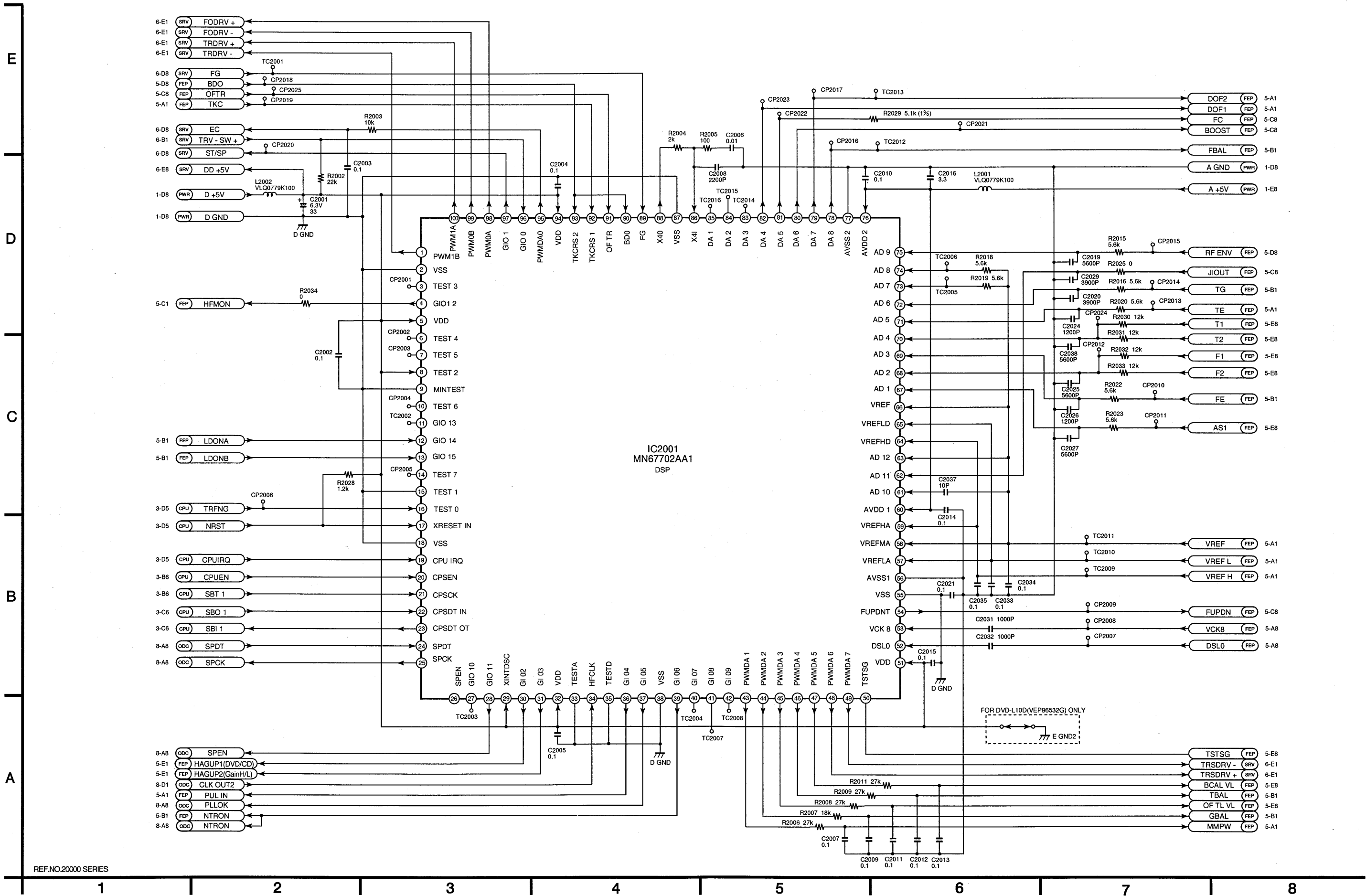
Other Components and Connections:

- Resistors (R):** Various values are specified, including R5201 (1/2W), R5202 (12k), R5203 (10k), R5204 (10k), R5205 (10k), R5206 (22k), R5207 (100k), R5208 (10k), R5209 (10k), R5210 (10k), R5211 (10k), R5212 (10k), R5213 (10k), R5214 (10k), R5215 (10k), R5216 (10k), R5217 (10k), R5218 (10k), R5219 (10k), R5220 (10k), R5221 (10k), R5222 (10k), R5223 (10k), R5224 (10k), R5225 (10k), R5226 (10k), R5227 (10k), R5228 (10k), R5229 (10k), R5230 (10k), R5231 (10k), R5232 (10k), R5233 (10k), R5234 (10k), R5235 (10k), R5236 (10k), R5237 (10k), R5238 (10k), R5239 (10k), R5240 (10k), R5241 (10k), R5242 (10k), R5243 (10k), R5244 (10k), R5245 (10k), R5246 (10k), R5247 (10k), R5248 (10k), R5249 (10k), R5250 (10k), R5251 (10k), R5252 (10k), R5253 (10k), R5254 (10k), R5255 (10k), R5256 (10k), R5257 (10k), R5258 (10k), R5259 (10k), R5260 (10k), R5261 (10k), R5262 (10k), R5263 (10k), R5264 (10k), R5265 (10k), R5266 (10k), R5267 (10k), R5268 (10k), R5269 (10k), R5270 (10k), R5271 (10k), R5272 (10k), R5273 (10k), R5274 (10k), R5275 (10k), R5276 (10k), R5277 (10k), R5278 (10k), R5279 (10k), R5280 (10k), R5281 (10k), R5282 (10k), R5283 (10k), R5284 (10k), R5285 (10k), R5286 (10k), R5287 (10k), R5288 (10k), R5289 (10k), R5290 (10k), R5291 (10k), R5292 (10k), R5293 (10k), R5294 (10k), R5295 (10k), R5296 (10k), R5297 (10k), R5298 (10k), R5299 (10k), R5300 (10k).
- Capacitors (C):** Various values are specified, including C5201 (10k), C5202 (10k), C5203 (10k), C5204 (10k), C5205 (10k), C5206 (10k), C5207 (10k), C5208 (10k), C5209 (10k), C5210 (10k), C5211 (10k), C5212 (10k), C5213 (10k), C5214 (10k), C5215 (10k), C5216 (10k), C5217 (10k), C5218 (10k), C5219 (10k), C5220 (10k), C5221 (10k), C5222 (10k), C5223 (10k), C5224 (10k), C5225 (10k), C5226 (10k), C5227 (10k), C5228 (10k), C5229 (10k), C5230 (10k), C5231 (10k), C5232 (10k), C5233 (10k), C5234 (10k), C5235 (10k), C5236 (10k), C5237 (10k), C5238 (10k), C5239 (10k), C5240 (10k), C5241 (10k), C5242 (10k), C5243 (10k), C5244 (10k), C5245 (10k), C5246 (10k), C5247 (10k), C5248 (10k), C5249 (10k), C5250 (10k), C5251 (10k), C5252 (10k), C5253 (10k), C5254 (10k), C5255 (10k), C5256 (10k), C5257 (10k), C5258 (10k), C5259 (10k), C5260 (10k), C5261 (10k), C5262 (10k), C5263 (10k), C5264 (10k), C5265 (10k), C5266 (10k), C5267 (10k), C5268 (10k), C5269 (10k), C5270 (10k), C5271 (10k), C5272 (10k), C5273 (10k), C5274 (10k), C5275 (10k), C5276 (10k), C5277 (10k), C5278 (10k), C5279 (10k), C5280 (10k), C5281 (10k), C5282 (10k), C5283 (10k), C5284 (10k), C5285 (10k), C5286 (10k), C5287 (10k), C5288 (10k), C5289 (10k), C5290 (10k), C5291 (10k), C5292 (10k), C5293 (10k), C5294 (10k), C5295 (10k), C5296 (10k), C5297 (10k), C5298 (10k), C5299 (10k), C5300 (10k).
- Inductors (L):** Various values are specified, including L5201 (10k), L5202 (10k), L5203 (10k), L5204 (10k), L5205 (10k), L5206 (10k), L5207 (10k), L5208 (10k), L5209 (10k), L5210 (10k), L5211 (10k), L5212 (10k), L5213 (10k), L5214 (10k), L5215 (10k), L5216 (10k), L5217 (10k), L5218 (10k), L5219 (10k), L5220 (10k), L5221 (10k), L5222 (10k), L5223 (10k), L5224 (10k), L5225 (

3-11. SRV SECTION (MAIN C.B.A. <6/11>) SCHEMATIC DIAGRAM



3-12. ADSC SECTION (MAIN C.B.A. <7/11>) SCHEMATIC DIAGRAM

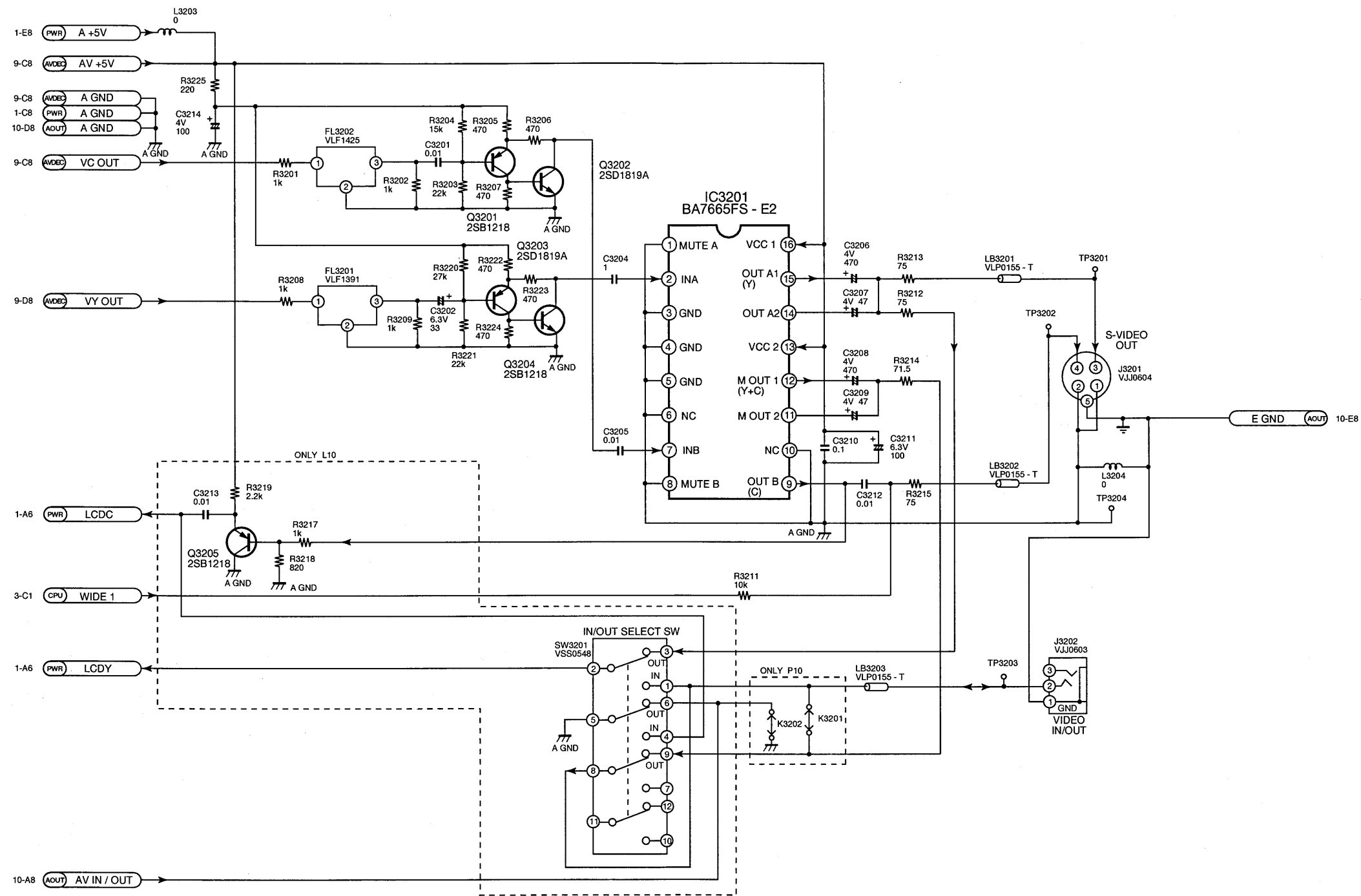


[illegible]

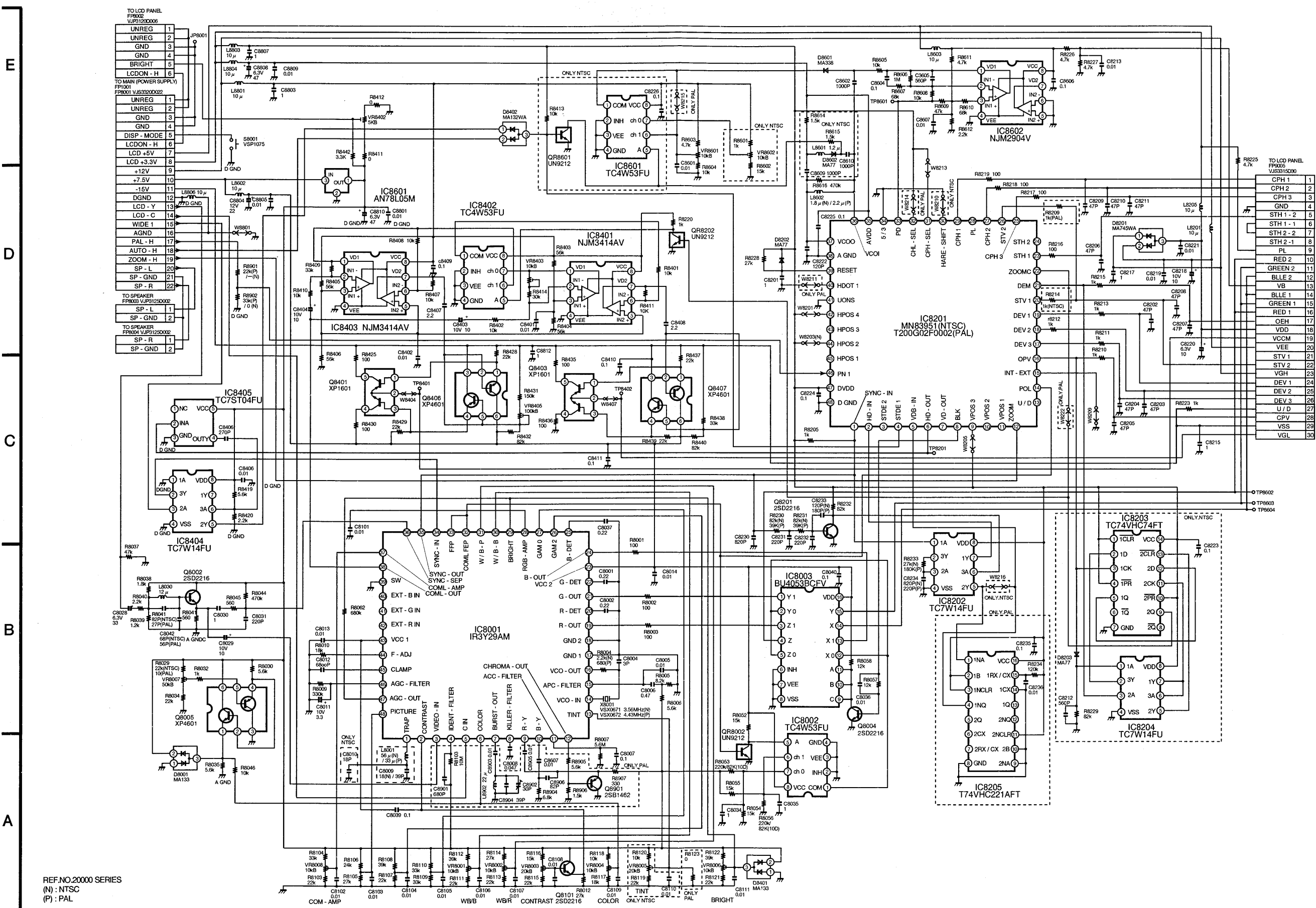
E



3-16. VIDEO OUT SECTION (MAIN C.B.A. <11/11>) SCHEMATIC DIAGRAM



3-17. LCD DRIVE SCHEMATIC DIAGRAM (FOR DVD-L10 ONLY)

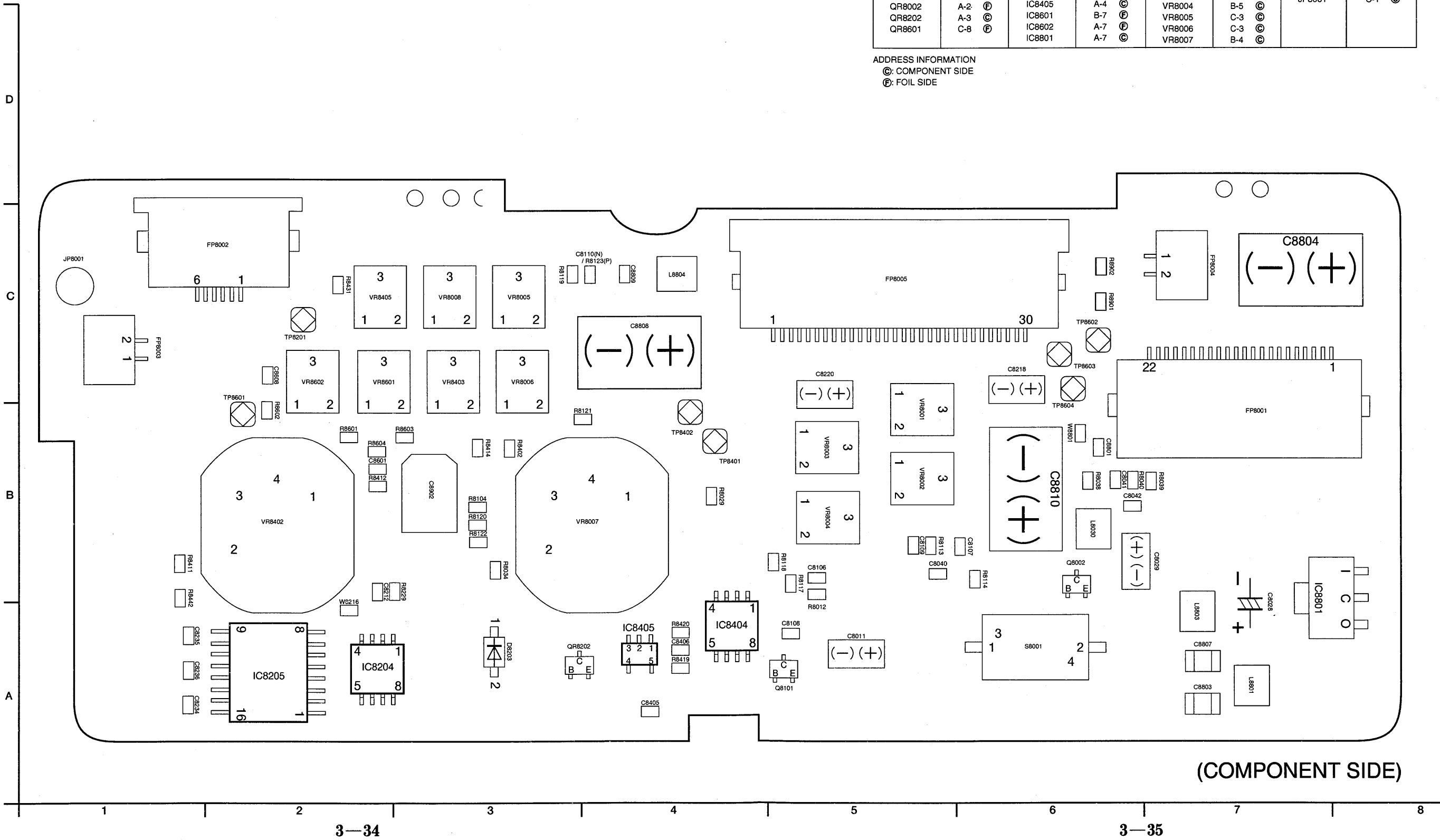


3-18. LCD DRIVE C.B.A. <COMPONENT SIDE> (FOR DVD-L10 ONLY)

MODE NO.	LCD DRIVE C.B.A.
DVD-L10D	VEP93307C
DVD-L10EC	VEP93307B
DVD-L10EB	VEP93307B
DVD-L10EN	VEP93307A
DVD-L10DMU	VEP93307A

LCD DRIVE C.B.A.									
Transistors		Integrated Circuits		Test Points		VR8008		C-3	
Q8002	B-6	IC8001	B-2	TP8201	C-2	VR8402	B-2		
Q8004	A-4	IC8002	A-3	TP8401	B-4	VR8403	C-3		
Q8005	B-3	IC8003	A-3	TP8402	B-4	VR8601	C-2		
Q8101	A-5	IC8201	C-7	TP8601	C-2	VR8602	C-2		
Q8201	B-5	IC8202	B-6	TP8602	C-6				
Q8401	A-5	IC8203	A-6	TP8603	C-6				
Q8403	A-5	IC8204	A-2	TP8604	C-6				
Q8406	B-5	IC8205	A-2						
Q8407	B-5	IC8401	C-5						
Q8901	C-3	IC8402	B-4						
Transistor-resistors		IC8403	C-5	Adjustments		Connectors			
QR8002	A-2	IC8404	A-4	VR8001	B-5	FP8001	C-7		
QR8202	A-3	IC8405	A-4	VR8002	B-5	FP8002	C-2		
QR8601	C-8	IC8601	B-7	VR8003	B-5	FP8003	C-1		
		IC8602	A-7	VR8004	C-3	FP8004	C-7		
		IC8801	A-7	VR8005	C-3	FP8005	C-5		
				VR8006	B-4	JP8001	C-1		

ADDRESS INFORMATION
Ⓢ: COMPONENT SIDE
Ⓡ: FOIL SIDE



A vertical scale with four horizontal tick marks. The marks are labeled A, B, C, and D from bottom to top. The labels are positioned to the left of the scale line.

ADDRESS INFORMATION
 ©: COMPONENT SIDE
 ®: FOIL SIDE

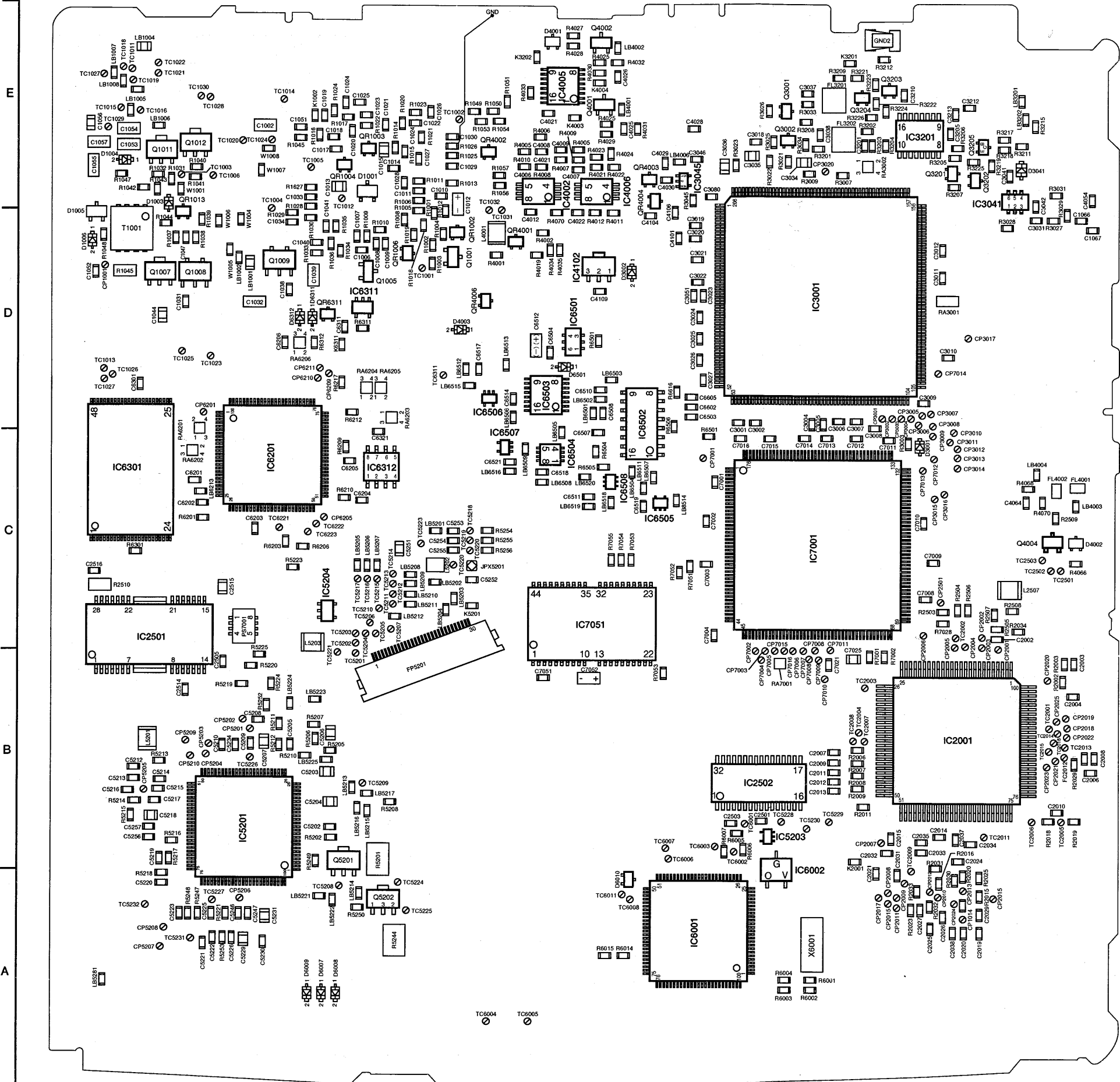


MODE NO.	MAIN C.B.A.
DVD-L10D	VEP96523G
DVD-P10D	
DVD-L10EC	VEP96523H
DVD-P10EC	
DVD-L10EB	VEP96523H
DVD-L10EN	VEP96523J
DVD-P10EN	VEP96523D
DVD-L10MU	VEP96523K
DVD-P10MU	VEP96523E

ADDRESS INFORMATION
 ©: COMPONENT SIDE
 Ⓣ: FOIL SIDE

(COMPONENT SIDE)

3-21. MAIN C.B.A. <FOIL SIDE>



MAIN C.B.A.					
Transistors		Integrated Circuits		Test Points	
Q1001	D-3	IC1001	E-4	TP3201	E-1
Q1002	D-3	IC1002	E-4	TP3202	E-1
Q1005	D-2	IC1003	E-3	TP3203	E-2
Q1006	D-2	IC2001	B-5	TP3204	E-2
Q1007	D-1	IC2501	B-1	TP4001	E-3
Q1008	D-1	IC2502	B-4	TP4002	E-3
Q1009	D-2	IC2503	B-4	TP4003	D-2
Q1010	D-5	IC3001	D-4	TP4004	D-2
Q1011	E-1	IC3041	D-5	TP4005	C-1
Q1012	E-1	IC3045	D-4	TP4006	C-1
Q2501	C-1	IC3051	D-2	TP4007	D-3
Q3001	E-4	IC3061	D-2	TP6201	C-2
Q3002	E-4	IC3201	E-5	TP6202	C-2
Q3201	E-5	IC4002	D-3	TP6203	A-5
Q3202	E-4	IC4003	D-3	TP7001	A-2
Q3203	E-5	IC4005	E-3	TP7002	A-2
Q3204	E-4	IC4006	D-3	TP7003	A-2
Q3205	E-5	IC4007	B-1	TP7004	A-2
Q4001	E-3	IC4008	D-1	TP7005	A-2
Q4002	E-3	IC4101	D-3	TP7006	A-2
Q4003	C-1	IC4102	D-3		
Q4004	C-5	IC5201	B-2	Adjustments	
Q5261	B-2	IC5203	B-4	VR3021	D-1
Q5262	A-2	IC5204	C-2	VR3022	D-1
		IC6001	A-4	VR4001	B-1
		IC6002	A-4	Connectors	
		IC6003	A-2	FP1001	E-5
		IC6201	C-2	FP2501	C-1
		IC6301	C-1	FP5261	B-2
		IC6311	D-2	FP5202	B-2
		IC6312	C-2	PS7001	C-2
		IC6501	D-3	J1001	D-1
		IC6502	C-3	J3201	E-1
		IC6503	D-3	J3202	E-2
		IC6504	C-3	J4001	E-3
		IC6505	C-3	J4002	C-1
		IC6506	C-3		
		IC6507	C-3		
		IC6508	C-3		
		IC7001	C-4		
		IC7051	C-3		

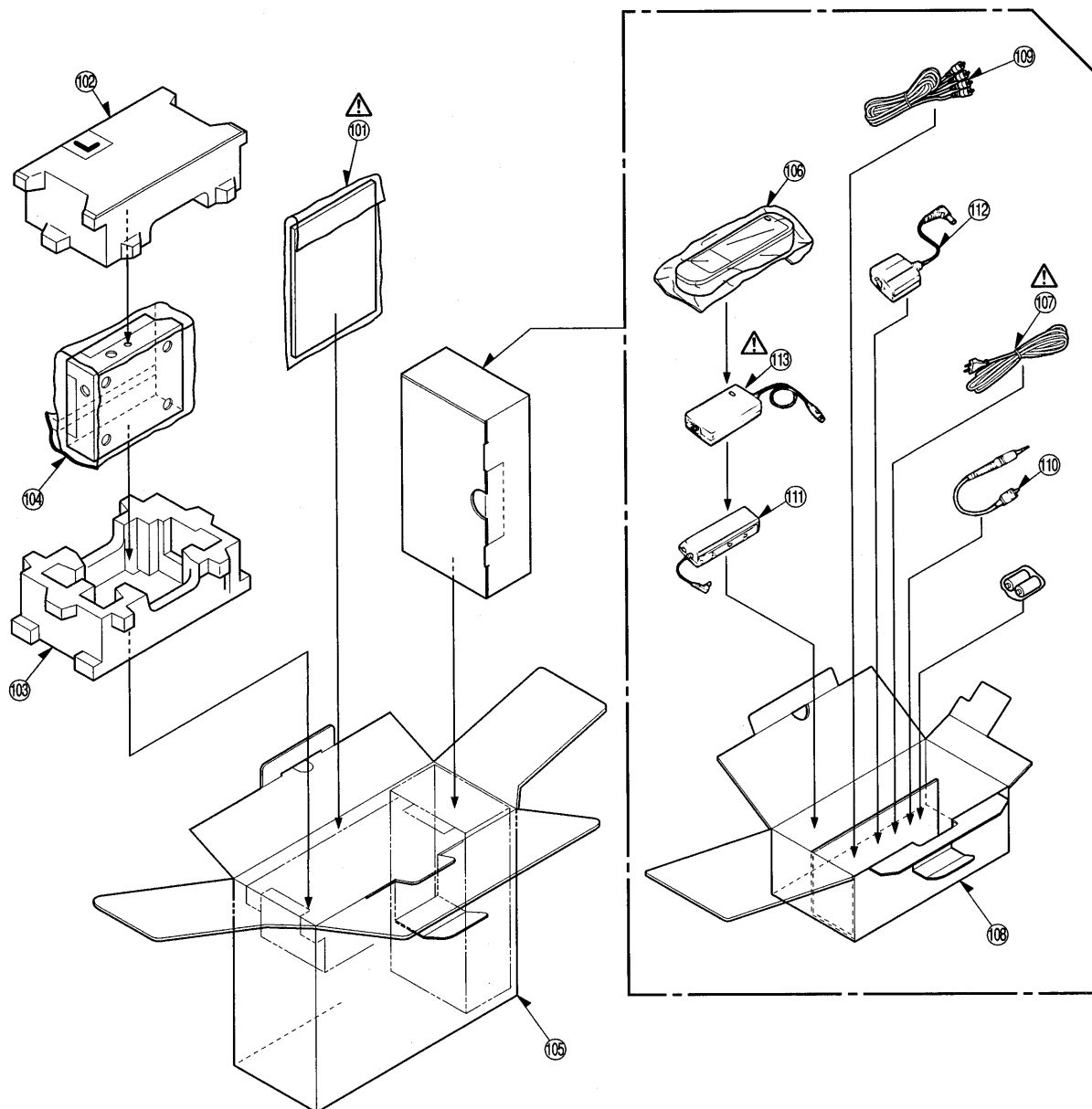
ADDRESS INFORMATION
⊙: COMPONENT SIDE
⊖: FOIL SIDE

(FOIL SIDE)

SECTION 4 EXPLODED VIEWS & REPLACEMENT PARTS LIST

4-1. Packing & Accessories Section

4-1-1. Packing & Accessories Section Exploded View



4-1-2. Packing & Accessories Section Parts List

Note: 1. *Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE

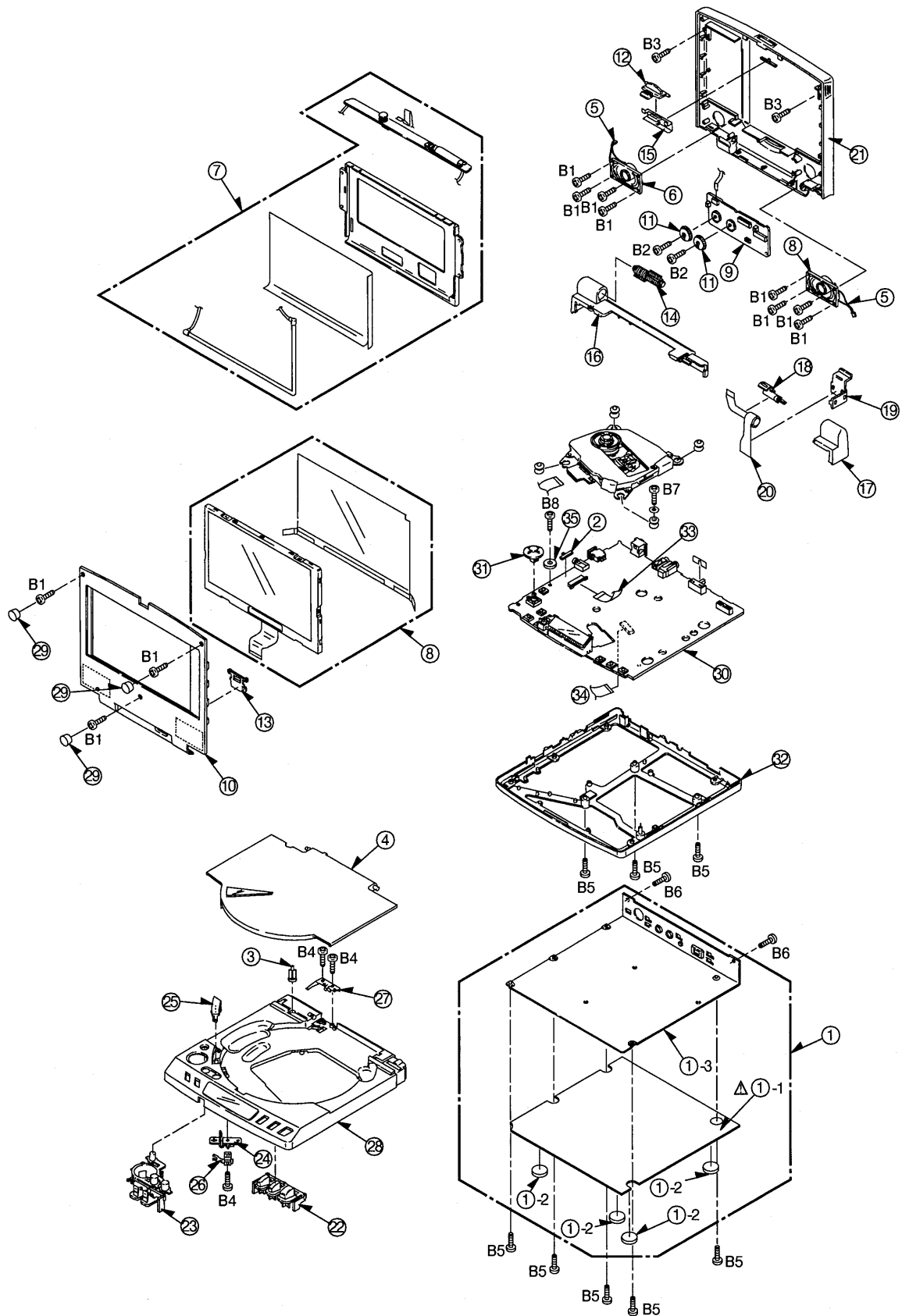
Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Δ 101	(1) VQT7548	OPERATING INSTRUCTIONS (ENGLISH)	1	DVD-L10EB
Δ 101	(1) VQT7551	OPERATING INSTRUCTIONS (ENGLISH)	1	DVD-L10EC
Δ 101	(1) VQT7552	OPERATING INSTRUCTIONS (FRENCH)	1	DVD-L10EC
Δ 101	(1) VQT7553	OPERATING INSTRUCTIONS (GERMAN)	1	DVD-L10EC

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
102	(1) VPN4818	CUSHION (L)	1	
103	(1) VPN4819	CUSHION (R)	1	
104	(1) VZZ0314	POLYETHYLENE BAG	1	
105	(1) VPG9481	PACKING CASE	1	DVD-L10EB
106	(1) VEQ2110	REMOTE CONTROL UNIT	1	
Δ 107	(1) VJA0940	AC CORD	1	DVD-L10EB
Δ 107	(1) VJA0664	AC CORD	1	DVD-L10EC
108	(1) VPK2064Z	ACCESSORY CASE	1	
109	(1) VJA1065	A/V CORD	1	
110	(1) VJA1081	OPTICAL DIGITAL AUDIO CABLE	1	
111	(1)	BATTERY PACK	1	OPTIONAL ACCESSORY
112	(1) VFA0297	CONVERSION ADAPTOR	1	
Δ 113	(1) VSQ1099	BATTERY CHARGER/AC ADAPTOR	1	

4-2. Casing Parts & Mechanism Section

4-2-1. Casing Parts & Mechanism Section Exploded View



4-2-2. Casing Parts & Mechanism Section Parts List

Note: 1. *Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE

Components identified with the mark have the special characteristics for safety. When replacing any of these components, use only the same type.


[illegible]

4-3. Traverse Section

4-3-1. Traverse Section Parts List

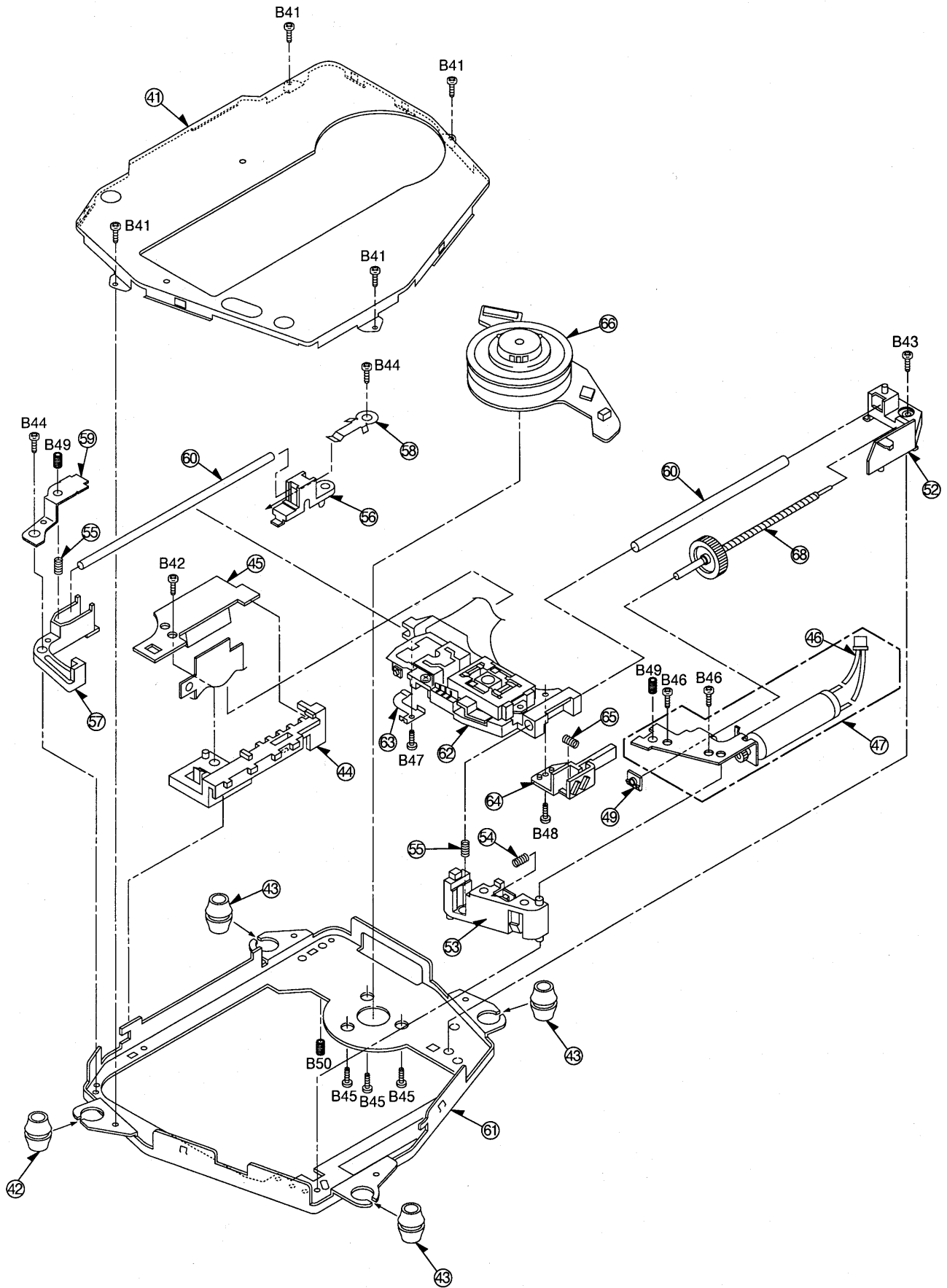
Note: 1. *Be sure to make your orders of replacement parts according to this list.

2. IMPORTANT SAFETY NOTICE

Components identified with the mark  have the special characteristics for safety. When replacing any of these components, use only the same type.

[illegible]

4-3-2. Traverse Section Exploded View



4-4. Electrical Replacement Parts List

- Note: 1. Be sure to make your orders of replacement parts according to this list.
 2. IMPORTANT SAFETY NOTICE: Components identified with the mark Δ have the special characteristics for safety. When replacing any of these components, use only the same type.
 3. Unless otherwise specified,
 All resistors are in OHMS, K=1,000 OHMS. All capacitors are in MICROFARADS (uf), P=uF.
 4. The P.C. Board units marked width "■" show below the main assembled parts.
 5. The marking (RTL) indicates the retention time is limited for this item.
 After the discontinuation of this assembly in production, it will no longer be available.

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
■	VEP96523H	MAIN C.B.A.	1	(RTL)
■	VEP93307B	LCD DRIVE C.B.A.	1	(RTL)
■	VEP90369A	INTERFACE C.B.A.	1	(RTL)
■	VEP96523H	MAIN C.B.A.		(RTL)
C21001	ECEV1CA100N	E.CAPACITOR CH 16V 10U	1	
C21002	ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C21003, 04	ECGC1CB6R8	E.CAPACITOR CH 16V 6.8U	2	
C21005	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C21006	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C21007, 08	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	2	
C21009	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C21010	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C21011	ECUX1H821KBV	C.CAPACITOR CH 50V 820P	1	
C21012	ECST1AY225Z	T.CAPACITOR CH 10V 2.2U	1	
C21013	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C21014	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C21015	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C21016	ECST1EY474Z	T.CAPACITOR CH 25V 0.47U	1	
C21017	ECUX1H103ZV	C.CAPACITOR CH 50V 0.01U	1	
C21018	ECUX1H181JCV	C.CAPACITOR CH 50V 180P	1	
C21019	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C21020	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C21021	ECUM1C683KBV	C.CAPACITOR CH 16V 0.068U	1	
C21022	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C21023	ECUX1H822KBV	C.CAPACITOR CH 50V 8200P	1	
C21024	ECYX1H821JCV	C.CAPACITOR CH 50V 820P	1	
C21025-28	ECUX1H220JCV	C.CAPACITOR CH 50V 22P	4	
C21029	ECUX1H821KBV	C.CAPACITOR CH 50V 820P	1	
C21030	ECUX1H152KBV	C.CAPACITOR CH 50V 1500P	1	
C21031	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C21032	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C21033	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C21034	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C21035	ECST1CC336Z	T.CAPACITOR CH 16V 33U	1	
C21037	ECST1CC336Z	T.CAPACITOR CH 16V 33U	1	
C21038	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C21039	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C21040	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C21041	ECUX1H472KBV	C.CAPACITOR CH 50V 4700P	1	
C21042	ECST1CC336Z	T.CAPACITOR CH 16V 33U	1	
C21044	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C21045, 46	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	2	
C21047	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C21048	ECST1AX226Z	T.CAPACITOR CH 10V 22U	1	
C21049	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C21051	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C21052	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C21053, 54	ECUM1E105KBM	C.CAPACITOR CH 25V 1U	2	
C21055	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C21056	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C21057	ECUM1E105KBM	C.CAPACITOR CH 25V 1U	1	
C21058	ECEV1CA101W	E.CAPACITOR CH 16V 100U	1	
C21059	ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C21060	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C21061	ECST1CY105Z	T.CAPACITOR CH 16V 1U	1	
C21062	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C21063	ECUM1C335ZFM	C.CAPACITOR CH 16V 3.3U	1	
C21066, 67	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C22001	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C22002	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22003	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C22004, 05	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C22006	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C22007	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C22008	ECUX1H222KBV	C.CAPACITOR CH 50V 2200P	1	
C22009	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C22010	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22011-13	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	3	
C22014, 15	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C22016	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C22019	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C22020	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C22021	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22024	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C22025	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C22026	ECUX1H122KBV	C.CAPACITOR CH 50V 1200P	1	
C22027	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C22029	ECUX1H392KBV	C.CAPACITOR CH 50V 3900P	1	
C22031, 32	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C22033-35	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	3	
C22037	ECUX1H100DCV	C.CAPACITOR CH 50V 10P	1	
C22038	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C22501	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22502, 03	ECUX1H103ZV	C.CAPACITOR CH 50V 0.01U	2	
C22504	EEVHB1C100	E.CAPACITOR 16V 10U	1	
C22505	ECUX1H221JCV	C.CAPACITOR CH 50V 220P	1	
C22506	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22507	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C22508-13	ECUX1H332KBV	C.CAPACITOR CH 50V 3300P	6	
C22514	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22515	ECUM1A105KBM	C.CAPACITOR CH 10V 1U	1	
C22516	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C22517, 18	EEVFC1C470P	E.CAPACITOR 16V 47U	2	
C23001-27	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	27	
C23028	EEVHB0G101	E.CAPACITOR 4V 100U	1	
C23029	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C23030-33	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	4	
C23034-36	ECUM1A105KBM	C.CAPACITOR CH 10V 1U	3	
C23037, 38	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C23041, 42	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C23046	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C23051-54	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	4	
C23055	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C23056	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C23061-64	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	4	
C23065	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C23066	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C23201	ECUX1H103ZV	C.CAPACITOR CH 50V 0.01U	1	
C23202	ECST0JX336Z	T.CAPACITOR CH 6.3V 33U	1	
C23204	ECUM1A105KBM	C.CAPACITOR CH 10V 1U	1	
C23205	ECUX1H103ZV	C.CAPACITOR CH 50V 0.01U	1	
C23206	ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C23207	ECST0GX476Z	T.CAPACITOR CH 4V 47U	1	
C23208	ECEV0GA471	E.CAPACITOR CH 4V 470U	1	
C23209	ECST0GX476Z	T.CAPACITOR CH 4V 47U	1	
C23210	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C23211	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
C23212, 13	ECUX1H103ZV	C.CAPACITOR CH 50V 0.01U	2	
C23214	EEVHB0G101	E.CAPACITOR 4V 100U	1	
C24001	EEVHB1C100	E.CAPACITOR 16V 10U	1	
C24002, 03	ECST1AX226Z	T.CAPACITOR CH 10V 22U	2	
C24004, 05	ECST0JY156Z	T.CAPACITOR CH 6.3V 15U	2	
C24006-09	ECUX1H681JCV	C.CAPACITOR CH 50V 680P	4	
C24011, 12	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24015	EEVHB1C220	E.CAPACITOR 16V 22U	1	
C24021, 22	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24023, 24	ECST1AX226Z	T.CAPACITOR CH 10V 22U	2	
C24025, 26	ECUX1H102JCV	C.CAPACITOR CH 50V 1000P	2	
C24027	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24028	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C24029, 30	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24032, 33	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24040	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C24041, 42	ECUM1H472KBN	C.CAPACITOR CH 50V 4700P	2	
C24043, 44	ECEV1AA470W	E.CAPACITOR CH 10V 47U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C24046	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24047	ECEV1CA101W	E.CAPACITOR CH 16V 100U	1	
C24048, 49	ECUM1C393KBV	C.CAPACITOR CH 16V 0.039U	2	
C24051	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
C24052	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24053	EEVHB1C220	E.CAPACITOR 16V 22U	1	
C24054	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24057, 58	ECST1AY106Z	T.CAPACITOR CH 10V 10U	2	
C24059	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C24061, 62	EEVHB0J470	E.CAPACITOR 6.3V 47U	2	
C24063-65	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	3	
C24070	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24101, 02	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24103	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C24104	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24105	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C24106	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C24107, 08	EEVHB0J330	E.CAPACITOR 6.3V 33U	2	
C24109, 10	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C24112, 13	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	2	
C24114	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C25201	EEVHB0J470	E.CAPACITOR 6.3V 47U	1	
C25202	ECUX1H560JCV	C.CAPACITOR CH 50V 56P	1	
C25203, 04	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	2	
C25205	ECUM1A184KBV	C.CAPACITOR CH 10V 0.18U	1	
C25206, 07	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	2	
C25208, 09	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	2	
C25210	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25211	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C25212, 13	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C25214	ECUX1H682KBV	C.CAPACITOR CH 50V 6800P	1	
C25215	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25216	ECUX1H331JCV	C.CAPACITOR CH 50V 330P	1	
C25217	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C25218	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C25219, 20	ECUX1H471JCV	C.CAPACITOR CH 50V 470P	2	
C25221	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C25222	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C25223	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25224	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C25225, 26	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	2	
C25229	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C25230	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25231	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C25232	ECUM1A335KBM	C.CAPACITOR CH 10V 3.3U	1	
C25234	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25241, 42	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	2	
C25243	EEVHB0J470	E.CAPACITOR 6.3V 47U	1	
C25246, 47	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	2	
C25249, 50	EEVHB1C100	E.CAPACITOR 16V 10U	2	
C25251	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C25252	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C25253-55	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	3	
C25256	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C25257	ECUX1H562KBV	C.CAPACITOR CH 50V 5600P	1	
C26001	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26002	ECEV0JA331	E.CAPACITOR CH 6.3V 330U	1	
C26003	EEVHB0J101	E.CAPACITOR 6.3V 100U	1	
C26201-06	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	6	
C26207	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C26301	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26311	ECUX1H103KBV	C.CAPACITOR CH 50V 0.01U	1	
C26321	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26501	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26502	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C26503, 04	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C26505	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C26506-08	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	3	
C26509	EEVHB0J330	E.CAPACITOR 6.3V 33U	1	
C26510, 11	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	2	
C26512	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C26514	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26517-19	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	3	
C26521	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C26602	ECUX1H150JCV	C.CAPACITOR CH 50V 15P	1	
C26605	ECUM1H200JCV	C.CAPACITOR CH 50V 20P	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C27001-16	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	16	
C27017, 18	EEVHB0J330	E.CAPACITOR 6.3V 33U	2	
C27021	ECUX1H102KBV	C.CAPACITOR CH 50V 1000P	1	
C27025	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C27051	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
C27052	ECST1AY685Z	T.CAPACITOR CH 10V 6.8U	1	
C27053	ECUX1C104ZV	C.CAPACITOR CH 16V 0.1U	1	
D21001	MA3130-L	DIODE	1	
D21002	SB20-03P-TD	DIODE	1	
D21003, 04	MA111	DIODE	2	
D21005	SB05-05CP	DIODE	1	
D21006	MA111	DIODE	1	
D23001	MA8030-H	DIODE	1	
D23002	MA111	DIODE	1	
D23041	MA111	DIODE	1	
D24001, 02	MA142WA	DIODE	2	
D24003-08	MA111	DIODE	6	
D26002-05	LN1371GTR	LED (GREEN)	4	
D26007-09	MA111	DIODE	3	
D26010	MA142WK	DIODE	1	
D26011	LN1371GTR	LED (GREEN)	1	
D26311, 12	MA728	DIODE	2	
D26501	MA111	DIODE	1	
DL26001	LD-B10231JZ	LCD	1	
FL23201	VLF1391	FILTER	1	
FL23202	VLF1425	FILTER	1	
FP21001	VJS4047A026	CONNECTOR (FEMALE) 26P	1	
FP22501	VJS3320B020	CONNECTOR (FEMALE) 20P	1	
FP25201	VJS3319B030	CONNECTOR (FEMALE) 30P	1	
GND2	VMC1467	EARTH ANGLE	1	
IC21001	BA9707KV	IC	1	
IC21002	PQ1R50	IC	1	
IC21003	AN1393S	IC	1	
IC22001	MN67702AA1	IC	1	
IC22501	AN8481SB	IC	1	
IC22502	BH6511FS	IC	1	
IC23001	MN67750EXA	IC	1	
IC23041	PQ1R33	IC	1	
IC23045	TC7SH08FU	IC	1	
IC23051	MNX7160A	IC	1	
IC23061	HM5241605T12	IC	1	
IC23201	BA7665FS	IC	1	
IC24002	NJM3404AV	IC	1	
IC24003	BU4053BCFV	IC	1	
IC24005	BU4053BCFV	IC	1	
IC24006	NJM3404AV	IC	1	
IC24007	NJM3414AV	IC	1	
IC24008	NJM2073M	IC	1	
IC24101	PCM1716E	IC	1	
IC24102	UPC29L05T	IC	1	
IC25201	AN8825NFHQ-V	IC	1	
IC25203	TC7S08FU	IC	1	
IC25204	RN5RZ20BA-TR	IC	1	
IC26001	MN101C03ABB	IC	1	
IC26002	PST7032-MT	IC	1	
IC26003	RPM6937	IC	1	
IC26201	MN102L25DN2J	IC	1	
IC26301	TC58F400FTA	IC	1	
IC26311	PST9142NR	IC	1	
IC26312	X25C02ST2	IC	1	
IC26501	PQ1R33	IC	1	
IC26502	BU2185F	IC	1	
IC26503	TCVHC157FTEL	IC	1	
IC26504	TC7WH74FU	IC	1	
IC26505	TC7SHU04FU	IC	1	
IC26506	TC7ST04FU	IC	1	
IC26507, 08	TC7SHU04FU	IC	2	
IC27001	MN103005AN2G	IC	1	
IC27051	M4V4265CT7ST	IC	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
J21001	VJJ0605	DC INLET	1	
J23201	VJJ0604	S TERMINAL	1	
J23202	VJJ0603	VIDEO IN/OUT JACK	1	
J24001	GP1F362T	AUDIO/OPT OUT JACK	1	
J24002	VJJ0606	HEADPHONE JACK	1	
K21001	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K22001	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
K24005	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K25201	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
K26311	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L21001	VLQ0837M4R7	COIL 4.7UH	1	
L21002	VLQ0837M330	COIL 33UH	1	
L21003, 04	VLQ0838M4R7	COIL 4.7UH	2	
L21005	VLQ0837M330	COIL 33UH	1	
L21006	VLQ0838M4R7	COIL 4.7UH	1	
L21007	VLQ0836M150	COIL 15UH	1	
L21008	VLQ0837M4R7	COIL 4.7UH	1	
L21009	VLQ0319K220	COIL 22UH	1	
L21010	VLQ0319K100	COIL 10UH	1	
L21011	VLQ0319K220	COIL 22UH	1	
L21012	VLQ0837M4R7	COIL 4.7UH	1	
L21013	VLQ0849	CHOKE COIL	1	
L22001, 02	VLQ0779K100	COIL 10UH	2	
L22501, 02	VLQ0780K100	COIL 10UH	2	
L22503, 04	VLQ0780K330	COIL 33UH	2	
L22505, 06	VLQ0780K100	COIL 10UH	2	
L22507	VLQ0779K470	COIL 47UH	1	
L22508	VLQ0837M101	COIL 100UH	1	
L23203	ERJ6GEY0R00	M.RESISTOR CH 1/10W 0	1	
L23204	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L24001	VLQ0779K101	COIL 100UH	1	
L24002	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
L24003	VLQ0865M220	COIL 22UH	1	
L25201	VLQ0779K100	COIL 10UH	1	
L25202	ELJFA100KB	COIL 10UH	1	
L25203	VLQ0779K100	COIL 10UH	1	
L26501	VLQ0426J220	COIL 22UH	1	
LB21001	JALBK2HS470T	COIL	1	
LB21002	VLP0155	COIL	1	
LB21004	JALBK2HS470T	COIL	1	
LB21005-09	VLP0155	COIL	5	
LB21010-13	VLP0323A601T	CHIP SOLID INDUCTOR	4	
LB23201, 02	VLF1149A182	COIL 1800UH	2	
LB23203	VLP0146	COIL	1	
LB24001-04	VLQ0865M220	COIL 22UH	4	
LB24005	VLP0323A601T	CHIP SOLID INDUCTOR	1	
LB24006-08	VLP0155	COIL	3	
LB25201-17	VLP0155	COIL	17	
LB25221-25	VLP0155	COIL	5	
LB25231	VLP0146	COIL	1	
LB26213	VLP0155	COIL	1	
LB26501, 02	VLP0323A601T	CHIP SOLID INDUCTOR	2	
LB26503-05	VLP0155	COIL	3	
LB26506	VLP0323A601T	CHIP SOLID INDUCTOR	1	
LB26507	VLP0155	COIL	1	
LB26508	VLP0323A601T	CHIP SOLID INDUCTOR	1	
LB26509	VLP0155	COIL	1	
LB26511, 12	VLP0323A601T	CHIP SOLID INDUCTOR	2	
LB26513-15	VLP0155	COIL	3	
LB26516, 17	VLP0323A601T	CHIP SOLID INDUCTOR	2	
LB26518	VLP0155	COIL	1	
LB26519	VLP0323A601T	CHIP SOLID INDUCTOR	1	
LB26520	VLP0155	COIL	1	
LB27001, 02	VLP0155	COIL	2	
P25202	VJP4004C003W	CONNECTOR (MALE) 3P	1	
PS27001	VJS2961A008	CONNECTOR (FEMALE) 8P	1	
Q21001	2SB970X	TRANSISTOR	1	
Q21005	2SB970X	TRANSISTOR	1	
Q21007	2SB798	TRANSISTOR	1	
Q21008, 09	FP106-TL	TRANSISTOR	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
Q21010	2SA1898S-TD	TRANSISTOR	1	
Q21011, 12	2SB1073	TRANSISTOR	2	
Q22501	FP106-TL	TRANSISTOR	1	
Q23001, 02	2SB1218A-R	TRANSISTOR	2	
Q23201	2SB1218	TRANSISTOR	1	
Q23202, 03	2SD1819A	TRANSISTOR	2	
Q23204, 05	2SB1218	TRANSISTOR	2	
Q24001-04	2SD1328-R	TRANSISTOR	4	
Q25201, 02	2SB1115-T	TRANSISTOR	2	
QR21002	UN5214	TRANSISTOR-RESISTOR	1	
QR21003	UN5114	TRANSISTOR-RESISTOR	1	
QR21004	UN5214	TRANSISTOR-RESISTOR	1	
QR21006	UN5214	TRANSISTOR-RESISTOR	1	
QR21013	UN5214	TRANSISTOR-RESISTOR	1	
QR24001	UN5211	TRANSISTOR-RESISTOR	1	
QR24002	UN5114	TRANSISTOR-RESISTOR	1	
QR24003, 04	UN5211	TRANSISTOR-RESISTOR	2	
QR24005	UN5111	TRANSISTOR-RESISTOR	1	
QR24006	UN5211	TRANSISTOR-RESISTOR	1	
QR24007	UN5114	TRANSISTOR-RESISTOR	1	
QR24041	UN5114	TRANSISTOR-RESISTOR	1	
QR24042	UN5211	TRANSISTOR-RESISTOR	1	
QR26311	UN5212	TRANSISTOR-RESISTOR	1	
R21001	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R21002	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R21003	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R21004	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R21005, 06	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	2	
R21007, 08	ERJ3GEYJ751	M.RESISTOR CH 1/16W 750	2	
R21009, 10	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	2	
R21011	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R21012	ERJ3RBD273	M.RESISTOR CH 1/16W 27K	1	
R21013	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R21014	ERJ3RED184	M.RESISTOR CH 1/16W 180K	1	
R21015	ERJ3RBD913	M.RESISTOR CH 1/16W 91K	1	
R21016	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R21017	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R21018	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R21019	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R21020	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R21021	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R21022, 23	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	2	
R21024	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R21025	ERJ3GEYJ680	M.RESISTOR CH 1/16W 68	1	
R21026	ERJ3GEYJ390	M.RESISTOR CH 1/16W 39	1	
R21027	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R21028	ERJ3RBD331	M.RESISTOR CH 1/16W 330	1	
R21029	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	
R21030	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R21031	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R21032	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R21033	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R21034	ERJ3RBD331	M.RESISTOR CH 1/16W 330	1	
R21035	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	
R21036	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R21037	ERJ3RBD472	M.RESISTOR CH 1/16W 4.7K	1	
R21038	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R21039	ERJ3RBD272	M.RESISTOR CH 1/16W 2.7K	1	
R21040	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R21041	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R21042	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
R21043	ERJ3RED680	M.RESISTOR CH 1/16W 68	1	
R21044	ERJ3RBD182	M.RESISTOR CH 1/16W 1.8K	1	
R21045	ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R21046	ERJ8GEYJ101	M.RESISTOR CH 1/8W 100	1	
R21047	ERJ3GEYJ820	M.RESISTOR CH 1/16W 82	1	
R21048	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R21049	ERJ3RBD682	M.RESISTOR CH 1/16W 6.8K	1	
R21050	ERJ3RBD271	M.RESISTOR CH 1/16W 270	1	
R21051	ERJ3RBD391	M.RESISTOR CH 1/16W 390	1	
R21052	ERJ3RBD332	M.RESISTOR CH 1/16W 3.3K	1	
R21053	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	
R21054	ERJ3RBD122	M.RESISTOR CH 1/16W 1.2K	1	
R21055	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R21056, 57	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R22002	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R22003	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R22004	ERJ3GEYJ202	M.RESISTOR CH 1/16W 2K	1	
R22005	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R22006	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R22007	ERJ3GEYJ183	M.RESISTOR CH 1/16W 18K	1	
R22008, 09	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	2	
R22011	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R22015, 16	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2	
R22018-20	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	3	
R22022, 23	ERJ3GEYJ562	M.RESISTOR CH 1/16W 5.6K	2	
R22025	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R22028	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R22029	ERJ3GEYF512	M.RESISTOR CH 1/16W 5.1K	1	
R22030-33	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	4	
R22034	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R22503, 04	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R22505	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R22507, 08	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R22509	ERJ3GEYJ271	M.RESISTOR CH 1/16W 270	1	
R22510	ERJ8GEYKR47	M.RESISTOR CH 1/8W 0.47	1	
R22511-16	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	6	
R22517, 18	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	2	
R22519, 20	ERJ3GEYJ560	M.RESISTOR CH 1/16W 56	2	
R22521, 22	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	2	
R22523	ERJ3GEYJ122	M.RESISTOR CH 1/16W 1.2K	1	
R22524	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R23001	ERJ3GEYJ220	M.RESISTOR CH 1/16W 22	1	
R23002	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R23003	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R23005	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R23006	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R23007	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R23009	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R23021	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R23022	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R23023	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	1	
R23025	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R23026	ERJ3GEYJ101	M.RESISTOR CH 1/16W 100	1	
R23027, 28	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R23029-32	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	4	
R23033, 34	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R23045	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R23201, 02	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R23203	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R23204	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R23205-07	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	3	
R23208, 09	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R23211	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R23212	ERJ3GEYJ750	M.RESISTOR CH 1/16W 75	1	
R23213	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
R23214	ERJ3KEF71R5	M.RESISTOR CH 1/16W 71.5	1	
R23215	ERJ3GEYF750	M.RESISTOR CH 1/16W 75	1	
R23217	ERJ3GEYF102	M.RESISTOR CH 1/16W 1K	1	
R23218	ERJ3GEYF821	M.RESISTOR CH 1/16W 820	1	
R23219	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R23220	ERJ3GEYJ273	M.RESISTOR CH 1/16W 27K	1	
R23221	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R23222-24	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	3	
R23225	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	1	
R24001	ERJ3GEYJ272	M.RESISTOR CH 1/16W 2.7K	1	
R24002	ERJ3GEYG152	M.RESISTOR CH 1/16W 1.5K	1	
R24003, 04	ERJ3RBD103	M.RESISTOR CH 1/16W 10K	2	
R24005, 06	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R24007, 08	ERJ3RBD562	M.RESISTOR CH 1/16W 5.6K	2	
R24009, 10	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R24011	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	1	
R24012	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	1	
R24013, 14	ERJ3RBD153	M.RESISTOR CH 1/16W 15K	2	
R24015, 16	ERJ3RBD473	M.RESISTOR CH 1/16W 47K	2	
R24017	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R24018, 19	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R24021, 22	ERJ3GEYJ224	M.RESISTOR CH 1/16W 220K	2	
R24023, 24	ERJ3GEYJ394	M.RESISTOR CH 1/16W 390K	2	
R24025, 26	ERJ3GEYJ821	M.RESISTOR CH 1/16W 820	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R24027, 28	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	2	
R24029, 30	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R24031, 32	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	2	
R24033	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R24034, 35	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R24041	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R24042	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R24043	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R24044	ERJ3GEYG822	M.RESISTOR CH 1/16W 8.2K	1	
R24045	ERJ3GEYJ392	M.RESISTOR CH 1/16W 3.9K	1	
R24046	ERJ3GEYJ683	M.RESISTOR CH 1/16W 68K	1	
R24047	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R24048	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R24049	ERJ3GEYJ151	M.RESISTOR CH 1/16W 150	1	
R24050	ERJ3GEYJ153	M.RESISTOR CH 1/16W 15K	1	
R24051, 52	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	2	
R24055, 56	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R24057, 58	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R24059, 60	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R24063, 64	ERJ14YJ270	M.RESISTOR CH 1/4W 27	2	
R24065, 66	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	2	
R24067, 68	ERJ3GEYJ1R5	M.RESISTOR CH 1/16W 1.5	2	
R24069, 70	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	2	
R24071	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R24072	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R25201	ERJ12YJ270	M.RESISTOR CH 1/2W 27	1	
R25202	ERJ3GEYJ123	M.RESISTOR CH 1/16W 12K	1	
R25205	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R25206	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R25207	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	1	
R25208	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R25210	ERJ3GEYF682	M.RESISTOR CH 1/16W 6.8K	1	
R25211	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R25212	ERJ3GEYJ752	M.RESISTOR CH 1/16W 7.5K	1	
R25213	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R25214	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R25215	ERJ3GEYG332	M.RESISTOR CH 1/16W 3.3K	1	
R25216	ERJ3GEYF682	M.RESISTOR CH 1/16W 6.8K	1	
R25217, 18	ERJ3GEYJ474	M.RESISTOR CH 1/16W 470K	2	
R25219, 20	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	2	
R25221	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R25223-25	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	3	
R25241	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R25242	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R25243	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R25244	ERJ12YJ270	M.RESISTOR CH 1/2W 27	1	
R25247, 48	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	2	
R25249, 50	ERJ3GEYJ2R2	M.RESISTOR CH 1/16W 2.2	2	
R25251	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R25252	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R25253	ERJ3GEYJ514	M.RESISTOR CH 1/16W 510K	1	
R25254-56	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	3	
R26001	ERJ3GEYJ184	M.RESISTOR CH 1/16W 180K	1	
R26002-04	ERJ3GEYJ104	M.RESISTOR CH 1/16W 100K	3	
R26005-07	ERJ3GEYJ221	M.RESISTOR CH 1/16W 220	3	
R26008	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	1	
R26010-13	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	4	
R26014	ERJ3GEYJ223	M.RESISTOR CH 1/16W 22K	1	
R26015	ERJ3GEYJ333	M.RESISTOR CH 1/16W 33K	1	
R26016	ERJ3GEYJ331	M.RESISTOR CH 1/16W 330	1	
R26017	ERJ3GEYJ470	M.RESISTOR CH 1/16W 47	1	
R26201	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R26203	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R26206	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R26209	ERJ3GEYJ222	M.RESISTOR CH 1/16W 2.2K	1	
R26210	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R26212	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R26217	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R26301	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R26311	ERJ3GEYG472	M.RESISTOR CH 1/16W 4.7K	1	
R26312	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	1	
R26501	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
R26504, 05	ERJ3GEYJ103	M.RESISTOR CH 1/16W 10K	2	
R26616	ERJ3RBD101	M.RESISTOR CH 1/16W 100	1	
R27001	ERJ3GEYG102	M.RESISTOR CH 1/16W 1K	1	
R27002	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R27003	ERJ3GEYG471	M.RESISTOR CH 1/16W 470	1	
R27004	ERJ3GEYJ473	M.RESISTOR CH 1/16W 47K	1	
R27051-55	ERJ3GEYJ330	M.RESISTOR CH 1/16W 33	5	
R27057	ERJ3GEY0R00	M.RESISTOR CH 1/16W 0	1	
RA23001	EXBV8V473J	RESISTOR-RESISTOR	1	
RA23002	EXBV4V473J	RESISTOR-RESISTOR	1	
RA26201, 02	EXBV4V103J	RESISTOR-RESISTOR	2	
RA26203	EXBV4V222J	RESISTOR-RESISTOR	1	
RA26204-06	EXBV4V473J	RESISTOR-RESISTOR	3	
RA27001	EXBV4V471J	RESISTOR-RESISTOR	1	
RA27002, 03	EXBV8V473J	RESISTOR-RESISTOR	2	
S26002-09	EVQPHP03T	SWITCH	8	
SW23201	VSS0548	I/O SELECT SWITCH	1	
SW25201, 02	VSP1077	DETECTOR SWITCH	2	
SW26001	VSP1072	SWITCH	1	
SW26020	VSP1077	DETECTOR SWITCH	1	
SW26021	VSP1074	BATTERY DETECTOR SWITCH	1	
SW26022	VSS0547	POWER SWITCH	1	
T21001	VLT0914	TRANSFORMER	1	
VR23021, 22	VRV0293B102T	VARIABLE RESISTOR	2	
VR24001	EVUAEAT43C54	POTENTIOMETER	1	
X26001	EF0S8004E5	CERAMIC OSCILLATOR	1	
X26601	VXS0943	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VMD2886	LCD HOLDER	1	
	VEP93307B	LCD DRIVE C.B.A.		(RTL)
C28001, 02	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	2	
C28004	ECUM1H030DCQ	C.CAPACITOR CH 50V 3P	1	
C28005	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28006	ECUX1C474KBN	C.CAPACITOR CH 16V 0.47U	1	
C28007	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C28008	ECUX1C473KBV	C.CAPACITOR CH 16V 0.047U	1	
C28009	ECUX1H390JCQ	C.CAPACITOR CH 50V 39P	1	
C28011	ECST1AY335Z	T.CAPACITOR CH 10V 3.3U	1	
C28012	ECUM1C682KBQ	C.CAPACITOR CH 16V 6800P	1	
C28013, 14	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	2	
C28028	ECST0JX336Z	T.CAPACITOR CH 6.3V 33U	1	
C28029	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C28030	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	1	
C28031	ECUM1E221KBQ	C.CAPACITOR CH 25V 220P	1	
C28034, 35	ECUM1A105KBN	C.CAPACITOR CH 10V 1U	2	
C28036	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28037	ECUX1A224KBV	C.CAPACITOR CH 10V 0.22U	1	
C28039, 40	ECUX1C104ZFQ	C.CAPACITOR CH 16V 0.1U	2	
C28041	ECUX1H270JCQ	C.CAPACITOR CH 50V 27P	1	
C28042	ECUX1H560JCQ	C.CAPACITOR CH 50V 56P	1	
C28101-09	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	9	
C28111	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28201	ECUM1C105KBM	C.CAPACITOR CH 16V 1U	1	
C28202-11	ECUX1H470JCQ	C.CAPACITOR CH 50V 47P	10	
C28213	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28215	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28217	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28218	ECST1AY106Z	T.CAPACITOR CH 10V 10U	1	
C28219	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28220	ECST0JY106Z	T.CAPACITOR CH 6.3V 10U	1	
C28221	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28222	ECUX1H121JCQ	C.CAPACITOR CH 50V 120P	1	
C28224, 25	ECUX1C104ZFQ	C.CAPACITOR CH 16V 0.1U	2	
C28230	ECUM1E821KBQ	C.CAPACITOR CH 25V 820P	1	
C28231, 32	ECUX1H221JCQ	C.CAPACITOR CH 50V 220P	2	
C28233	ECUX1H181JCQ	C.CAPACITOR CH 50V 180P	1	
C28234	ECUX1H221JCQ	C.CAPACITOR CH 50V 220P	1	
C28235	ECUX1C104ZFQ	C.CAPACITOR CH 16V 0.1U	1	
C28236	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28401, 02	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	2	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
C28403, 04	ECST1AY106Z	T.CAPACITOR CH 10V 10U	2	
C28405	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28406	ECUX1E271KBQ	C.CAPACITOR CH 25V 270P	1	
C28407, 08	ECUM1C225KBM	C.CAPACITOR CH 16V 2.2U	2	
C28409-11	ECUX1C104ZFQ	C.CAPACITOR CH 16V 0.1U	3	
C28601	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28602	ECUX1E102KBQ	C.CAPACITOR CH 25V 1000P	1	
C28604	ECUX1C104KBV	C.CAPACITOR CH 16V 0.1U	1	
C28605	ECUX1E561KBQ	C.CAPACITOR CH 25V 560P	1	
C28606	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28607	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28801	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28803	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28804	EEFCD1B220R	E.CAPACITOR 22U	1	
C28805	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28807	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28808	EEFCD0J470R	E.CAPACITOR 6.3V 47U	1	
C28809	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28810	EEFCD0J470R	E.CAPACITOR 6.3V 47U	1	
C28812	ECUM1C105ZFN	C.CAPACITOR CH 16V 1U	1	
C28901	ECUX1E681KBQ	C.CAPACITOR CH 25V 680P	1	
C28902	ECRKN030G61	CERAMIC CAPACITOR	1	
C28903	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28904	ECUX1H390JCQ	C.CAPACITOR CH 50V 39P	1	
C28905	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
C28906	ECUX1H820JCQ	C.CAPACITOR CH 50V 82P	1	
C28907	ECUX1C103KBQ	C.CAPACITOR CH 16V 0.01U	1	
D28001	MA133	DIODE	1	
D28201	MA745WA	DIODE	1	
D28202	MA77	DIODE	1	
D28401	MA133	DIODE	1	
D28402	MA132WA	DIODE	1	
D28601	MA338	DIODE	1	
FP28001	VJS3791B022	CONNECTOR (FEMALE) 22P	1	
FP28002	VJS320B006	CONNECTOR (FEMALE) 6P	1	
FP28003, 04	VJP4057T	CONNECTOR (MALE) 2P	2	
FP28005	VJS3801B030	CONNECTOR (FEMALE) 30P	1	
IC28001	IR3Y29AM	IC	1	
IC28002	TC4W53FU	IC	1	
IC28003	BU4053BCFV	IC	1	
IC28201	T200G02F0002	IC	1	
IC28202	TC7W14FU	IC	1	
IC28205	T74VHC221AFT	IC	1	
IC28401	NJM3414AV	IC	1	
IC28402	TC4W53FU	IC	1	
IC28403	NJM3414AV	IC	1	
IC28404	TC7W14FU	IC	1	
IC28405	TC7ST04FU	IC	1	
IC28602	NJM2904V	IC	1	
IC28801	AN78L05M	IC	1	
L28001	VLQ0426J330	COIL 33UH	1	
L28030	VLQ0426J120	COIL 12UH	1	
L28201	VLQ0464K100	COIL 10UH	1	
L28205	VLQ0464K100	COIL 10UH	1	
L28602	VLQ0426J2R2	COIL 2.2UH	1	
L28603	VLQ0464K100	COIL 10UH	1	
L28801-04	VLQ0464K100	COIL 10UH	4	
L28806	VLQ0464K100	COIL 10UH	1	
L28901	VLQ0426J220	COIL 22UH	1	
Q28002	2SD2216	TRANSISTOR	1	
Q28004	2SD2216	TRANSISTOR	1	
Q28005	XP4601	TRANSISTOR-TRANSISTOR	1	
Q28101	2SD2216	TRANSISTOR	1	
Q28201	2SD2216	TRANSISTOR	1	
Q28401	XP1601	TRANSISTOR	1	
Q28403	XP1601	TRANSISTOR	1	
Q28406, 07	XP4601	TRANSISTOR-TRANSISTOR	2	
Q28901	2SB1462	TRANSISTOR	1	
QR28002	UN9212	TRANSISTOR-RESISTOR	1	
QR28202	UN9212	TRANSISTOR-RESISTOR	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R28001-03	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	3	
R28004	ERJ2RHD681	M.RESISTOR CH 1/16W 680	1	
R28005	ERJ2GEJ822	M.RESISTOR CH 1/16W 8.2K	1	
R28006	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R28007	ERJ3GEYJ565	M.RESISTOR CH 1/16W 5.6M	1	
R28009	ERJ2GEJ334	M.RESISTOR CH 2W 330K	1	
R28010	ERJ2RHD183	M.RESISTOR CH 1/16W 18K	1	
R28012	ERJ2GEJ273	M.RESISTOR CH 1/16W 27K	1	
R28029	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28030	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R28032	ERJ2GEJ102	M.RESISTOR CH 1/16W 1K	1	
R28034	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28035	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R28037	ERJ2GEJ473	M.RESISTOR CH 1/16W 47K	1	
R28038	ERJ2RHD182	M.RESISTOR CH 1/16W 1.8K	1	
R28039	ERJ2RHD122	M.RESISTOR CH 1/16W 1.2K	1	
R28040	ERJ2RHD222	M.RESISTOR CH 1/16W 2.2K	1	
R28041	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	
R28044	ERJ2GEJ474	M.RESISTOR CH 1/16W 470K	1	
R28045	ERJ2GEJ561	M.RESISTOR CH 1/16W 560	1	
R28046	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28052	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R28053	ERJ2GEJ224	M.RESISTOR CH 1/16W 220K	1	
R28054, 55	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	2	
R28056	ERJ2GEJ224	M.RESISTOR CH 1/16W 220K	1	
R28057, 58	ERJ2GEJ123	M.RESISTOR CH 1/16W 12K	2	
R28062	ERJ2GEJ684	M.RESISTOR CH 1/16W 680K	1	
R28103	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28104	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
R28105	ERJ2GEJ273	M.RESISTOR CH 1/16W 27K	1	
R28106	ERJ2GEJ203	M.RESISTOR CH 1/16W 20K	1	
R28107	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28108	ERJ2GEJ393	M.RESISTOR CH 1/16W 39K	1	
R28109, 10	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	2	
R28111	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28112	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
R28113	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28114	ERJ2GEJ273	M.RESISTOR CH 1/16W 27K	1	
R28115	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28116	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R28117	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
R28118	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28121	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28122	ERJ2GEJ393	M.RESISTOR CH 1/16W 39K	1	
R28123	ERJ2GE0R00	M.RESISTOR CH 1/16W 0	1	
R28205	ERJ2GEJ102	M.RESISTOR CH 1/16W 1K	1	
R28209-13	ERJ2GEJ102	M.RESISTOR CH 1/16W 1K	5	
R28215	ERJ2GEJ102	M.RESISTOR CH 1/16W 1K	1	
R28216-19	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	4	
R28220	ERJ2GEJ153	M.RESISTOR CH 1/16W 15K	1	
R28223	ERJ2GEJ102	M.RESISTOR CH 1/16W 1K	1	
R28225-27	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	3	
R28228	ERJ2GEJ273	M.RESISTOR CH 1/16W 27K	1	
R28230, 31	ERJ2RHD393	M.RESISTOR CH 1/16W 39K	2	
R28232	ERJ2RHD823	M.RESISTOR CH 1/16W 82K	1	
R28233	ERJ2RKD184	M.RESISTOR CH 1/16W 180K	1	
R28234	ERJ2GEJ124	M.RESISTOR CH 1/16W 120K	1	
R28401, 02	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	2	
R28403-06	ERJ2GEJ563	M.RESISTOR CH 1/16W 56K	4	
R28407, 08	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	2	
R28409	ERJ2RHD333	M.RESISTOR CH 1/16W 93K	1	
R28410	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	1	
R28411, 12	ERJ2GE0R00	M.RESISTOR CH 1/16W 0	2	
R28413	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28414	ERJ2RHD303	M.RESISTOR CH 1/16W 30K	1	
R28419	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R28420	ERJ2GEJ222	M.RESISTOR CH 1/16W 2.2K	1	
R28425	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
R28428, 29	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	2	
R28430	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	1	
R28431	ERJ2GEJ154	M.RESISTOR CH 1/16W 150K	1	
R28432	ERJ2GEJ823	M.RESISTOR CH 1/16W 82K	1	
R28435, 36	ERJ2GEJ101	M.RESISTOR CH 1/16W 100	2	
R28437	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28438	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
R28439	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	

Ref.No.	Part No.	Part Name & Description	Pcs	Remarks
R28440	ERJ2GEJ823	M.RESISTOR CH 1/16W 82K	1	
R28441	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	1	
R28442	ERJ2GEJ332	M.RESISTOR CH 1/16W 3.3K	1	
R28603	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R28604	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28605	ERJ2RHD103	M.RESISTOR CH 1/16W 10K	1	
R28606	ERJ2GEJ105	M.RESISTOR CH 1/16W 1M	1	
R28607	ERJ2RHD683	M.RESISTOR CH 1/16W 68K	1	
R28608	ERJ2GEJ103	M.RESISTOR CH 1/16W 10K	1	
R28609	ERJ2GEJ473	M.RESISTOR CH 1/16W 47K	1	
R28610	ERJ2GEJ683	M.RESISTOR CH 1/16W 68K	1	
R28611	ERJ2GEJ472	M.RESISTOR CH 1/16W 4.7K	1	
R28612	ERJ2GEJ222	M.RESISTOR CH 1/16W 2.2K	1	
R28616	ERJ2GEJ474	M.RESISTOR CH 1/16W 470K	1	
R28901	ERJ2GEJ223	M.RESISTOR CH 1/16W 22K	1	
R28902	ERJ2GEJ333	M.RESISTOR CH 1/16W 33K	1	
R28903	ERJ3GEYJ106	M.RESISTOR CH 1/16W 10M	1	
R28904	ERJ2RHD682	M.RESISTOR CH 1/16W 6.8K	1	
R28905	ERJ2GEJ562	M.RESISTOR CH 1/16W 5.6K	1	
R28906	ERJ2GEJ152	M.RESISTOR CH 1/16W 1.5K	1	
R28907	ERJ2GEJ331	M.RESISTOR CH 1/16W 330	1	
S28001	VSP1075	SWITCH	1	
VR28001, 02	VRV0293B103T	VARIABLE RESISTOR	2	
VR28003	VRV0293B203T	VARIABLE RESISTOR	1	
VR28004	VRV0293B103T	VARIABLE RESISTOR	1	
VR28006	VRV0293B103T	VARIABLE RESISTOR	1	
VR28007	VRV0295B503T	VARIABLE RESISTOR	1	
VR28008	VRV0293B103T	VARIABLE RESISTOR	1	
VR28402	VRV0295B502T	VARIABLE RESISTOR	1	
VR28403	VRV0293B103T	VARIABLE RESISTOR	1	
VR28405	VRV0293B104T	VARIABLE RESISTOR	1	
VR28601	VRV0293B103T	VARIABLE RESISTOR	1	
X28001	VSX0672	CRYSTAL OSCILLATOR	1	
		MISCELLANEOUS		
	VEUGB040AA	WIRE CABLE	1	
	VMZ2784	EARTH SHEET	1	
■	VEP90369A	INTERFACE C.B.A.		(RTL)
FP25291	VJS3498A028	CONNECTOR (FEMALE) 28P	1	
FP25292	VJS3931B030	CONNECTOR (FEMALE) 30P	1	

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